

Connecting via Winsock to STN

STN STRUCTURE AND KEYWORD SEARCH (REGISTRY, CAPLUS)

Welcome to STN International! Enter x:x

LOGINID:SSPTAJMN1626

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page for STN Seminar Schedule - N. America
NEWS 2 JAN 02 STN pricing information for 2008 now available
NEWS 3 JAN 16 CAS patent coverage enhanced to include exemplified
prophetic substances
NEWS 4 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
custom IPC display formats
NEWS 5 JAN 28 MARPAT searching enhanced
NEWS 6 JAN 28 USGENE now provides USPTO sequence data within 3 days
of publication
NEWS 7 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 8 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 9 FEB 08 STN Express, Version 8.3, now available
NEWS 10 FEB 20 PCI now available as a replacement to DPCI
NEWS 11 FEB 25 IFIREF reloaded with enhancements
NEWS 12 FEB 25 IMSPRODUCT reloaded with enhancements
NEWS 13 FEB 29 WPINDEX/WPIDS/WPIX enhanced with ECLA and current
U.S. National Patent Classification
NEWS 14 MAR 31 IFICDB, IFIPAT, and IFIUIDB enhanced with new custom
IPC display formats
NEWS 15 MAR 31 CAS REGISTRY enhanced with additional experimental
spectra
NEWS 16 MAR 31 CA/CAPLUS and CASREACT patent number format for U.S.
applications updated
NEWS 17 MAR 31 LPCI now available as a replacement to LDPCI
NEWS 18 MAR 31 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 19 APR 04 STN AnaVist, Version 1, to be discontinued
NEWS 20 APR 15 WPIDS, WPINDEX, and WPIX enhanced with new
predefined hit display formats
NEWS 21 APR 28 EMBASE Controlled Term thesaurus enhanced
NEWS 22 APR 28 IMSRESEARCH reloaded with enhancements
NEWS 23 MAY 30 INPAFAMDB now available on STN for patent family
searching
NEWS 24 MAY 30 DGENE, PCTGEN, and USGENE enhanced with new homology
sequence search option
NEWS 25 JUN 06 EPFULL enhanced with 260,000 English abstracts
NEWS 26 JUN 06 KOREAPAT updated with 41,000 documents

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 14:22:43 ON 08 JUN 2008

=> FIL REG

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 14:22:49 ON 08 JUN 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 6 JUN 2008 HIGHEST RN 1026208-38-7

DICTIONARY FILE UPDATES: 6 JUN 2008 HIGHEST RN 1026208-38-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

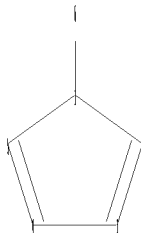
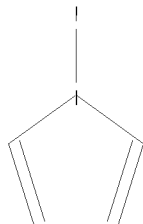
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10576282\1.str



```

chain nodes :
6
ring nodes :
1 2 3 4 5
chain bonds :
1-6
ring bonds :
1-2 1-5 2-3 3-4 4-5
exact/norm bonds :
1-2 1-5 1-6 2-3 3-4 4-5

```

```

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS

```

```

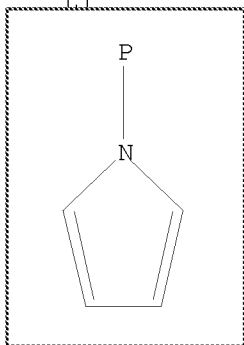
L1      STRUCTURE UPLOADED

```

```

=> D
L1 HAS NO ANSWERS
L1      STR

```



Structure attributes must be viewed using STN Express query preparation.

```

=> S L1
SAMPLE SEARCH INITIATED 14:23:02 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      644 TO ITERATE

100.0% PROCESSED      644 ITERATIONS      45 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:   11358 TO   14402
PROJECTED ANSWERS:      498 TO    1302

```

```

L2      45 SEA SSS SAM L1

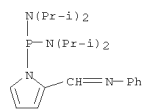
```

```

=> D SCAN

```

L2 45 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
 IN Phosphonous diamide, N,N,N',N'-tetrakis(1-methylethyl)-P-[2-
 [(phenylimino)methyl]-1H-pyrrol-1-yl]-
 MF C23 H37 N4 P



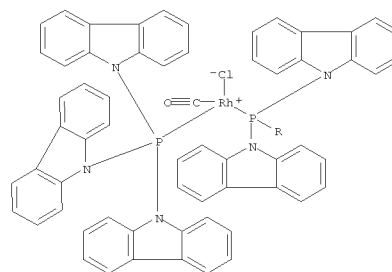
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

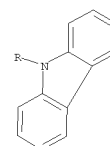
L2 45 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
 IN Rhodium, carbonylchlorobis[9,9',9''-(phosphinidyne-κP)tris[9H-
 carbazole]]-, (SP-4-3)-, compd. with dichloromethane (1:2) (9CI)
 MF C73 H48 Cl N6 O P2 Rh . 2 C H2 Cl2

CM 1

PAGE 1-A



PAGE 2-A



CM 2

Cl-CH2-Cl

L2 45 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN (Continued)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

```
=> S L1 FULL
FULL SEARCH INITIATED 14:23:20 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      12302 TO ITERATE

100.0% PROCESSED      12302 ITERATIONS      783 ANSWERS
SEARCH TIME: 00.00.01

L3              783 SEA SSS FUL L1
```

```
=> FIL CAPLUS
COST IN U.S. DOLLARS      SINCE FILE      TOTAL
                           ENTRY      SESSION
FULL ESTIMATED COST      178.36      178.57
```

FILE 'CAPLUS' ENTERED AT 14:23:42 ON 08 JUN 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Jun 2008 VOL 148 ISS 24
FILE LAST UPDATED: 6 Jun 2008 (20080606/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/legal/infopolicy.html>

```
=> S L3
L4              267 L3

=> S L4 AND HYDROFORMYLATION
              7611 HYDROFORMYLATION
L5              34 L4 AND HYDROFORMYLATION

=> S L4 AND PHOSPHORAMIDITE
              3224 PHOSPHORAMIDITE
L6              4 L4 AND PHOSPHORAMIDITE
```

```
=> S L5 OR L4
L7              267 L5 OR L4
```

```
=> S L5 OR L6
L8              37 L5 OR L6
```

=> D IBIB ABS HITSTR L8 TOT

L8 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

AB Tetraphosphines, tetraphosphonates, tetraphosphinites, tetraphosphorodiamidates and combinations thereof [R = H, alkyl, aryl, alkoxy, aryloxy, CO₂Et, halo, sulfonyl, phosphinyl, amino; Y = alkyl, aryl, alkoxy, aryloxy, (un)substituted 1-pyrrolyl; X = O, NH, alkylimino, CH₂], useful as ligands for transition metal-catalyzed hydroformylation of alkenes, are claimed. Ligands demonstrate enhanced complexation ability at high pressures of CO, thus providing regioselectivity and n/iiso ratio of the product aldehydes in the processes, catalyzed by transition metal compds., preferably rhodium(I) complexes, at lower ligand/metal ratios, compared to monodentate and bidentate ligands. The ligands I may be also useful in hydrocarboxylation, hydrocyanation, and carbonylation reactions, hydroaminomethylation and similar related reactions. In an example, ligand I (L1, X = O, R = H, Y = 1-pyrrolyl) was prepared by reaction of

mmol of chlorodi-1-pyrrolylphosphine with 1 mmol of 1,1'-biphenyl-
2,2',6,6'-tetrol in the presence of 1 mL of Et3N in 10 mL of THF for 6 h
at 20°. In subsequent examples, effects of
hydroformylation reaction conditions and substrate structure were
explored; hydroformylation of 10 mmol of 1-octene catalyzed by
3 mol ratio of Li[Rh(acac)(CO)2] (1:104 catalyst/substrate ratio) at
100° and 10 atm of CO/H2 (1:1) for 12 h yielded 1-nonanal with
372:1 n/iso regioselectivity.

IT 920508-98-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)
(chelating tetraphosphorus ligands with 1,1'-biphenyl backbone as
ligands for highly regioselective hydroformylation of alkenes
in preparation Lf linear aldehydes)

RN 920508-98-1 CAPUS

CN 1H-Pyrole, 1,1',1'',1''',1'''',1''''-,1''''''-(1,1'-biphenyl)-
2,2',6,6'-tetralkyltetrakis(oxo-phosphorhydnyne)octakis- (CA INDEX NAME)

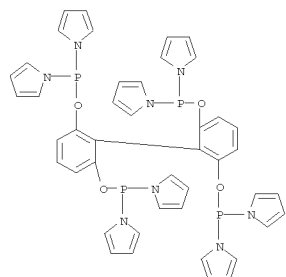
The chemical structure shows two benzene rings connected by a central carbon-carbon bond. Each benzene ring has a substituent 'R' at the top and bottom positions. The left ring has 'Y2P-X' at the ortho position (left) and 'X-PY2' at the other ortho position (right). The right ring has 'X-PY2' at the ortho position (left) and 'Y2P-X' at the other ortho position (right).

The chemical structure shows a central C-C bond between two phenyl rings. Each phenyl ring is substituted with a phosphonate group (-P(=O)(O-)(pyridyl)) and a pyridyl group (-pyridyl). The pyridyl groups are oriented in a way that suggests a specific stereochemistry or conformation.

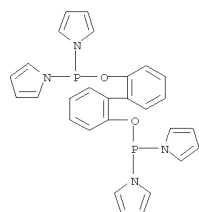
ClP1C=CC=C1N2C=CC=CC=C2ClP1C=CC=C1N2C=CC=C2

IT	920508-98-1P
	RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USE\$ (Uses)
	(regioselective rhodium-catalyzed isomerization-hydroformylations of internal olefins in presence of pyrrole-based tetraphosphorus ligand)
RN	920508-98-1 CAPLUS
CN	1H-pyrrole, 1,1',1'',1''',1'''',1''''',1''''',1''''',1''''',1''''',1''''', 2,2',6,6'-tetrakis(tetrais(oxvphosphinidyn)e)octakis- (CA INDEX NAME)

L8 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



IT 247130-61-6
 RL: CAT (Catalyst use); USES (Uses)
 (rhodium-catalyzed isomerization-hydroformylations of internal and terminal olefins in presence of pyrrole-based phosphorus ligands)
 RN 247130-61-6 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-[1,1'-biphenyl]-2,2'-diyl ester (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

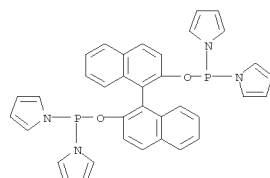
L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1185981 CAPLUS
 DOCUMENT NUMBER: 146:28997
 TITLE: Synthesis and application of bidentate phosphoramidite ligand with binaphthol backbone in alkene hydroformylation reaction
 INVENTOR(S): Ding, Kuiling; Zhao, Baoqun
 PATENT ASSIGNEE(S): Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 27pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

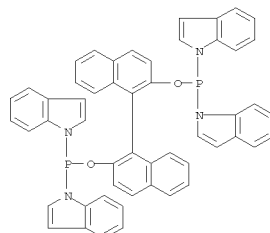
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1857776	A	20061108	CN 2006-10027493	20080609
PRIORITY APPLN. INFO.:			CN 2006-10027493	20080609

OTHER SOURCE(S): MARPAT 146:28997
 AB The title ligand can be used for manufacture of aldehyde compds. via alkene hydroformylation reaction including the following steps: (1) performing a reaction between a ligand I and rhodium salt in an organic solvent in the presence of inert gas or N₂ to obtain a ligand/Rh catalyst, and (2) adding alkene to the ligand/Rh catalyst solution in the presence of inert gas or N₂, pumping CO and H₂ for reaction to obtain a hydroformylation product.
 IT 247130-62-7P 247130-65-0P 916049-82-6P
 916049-83-7P 916049-84-8P 916049-85-9P
 916049-86-0P 916049-87-1P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation and application of bidentate phosphoramidite ligand with binaphthol backbone in alkene hydroformylation reaction)
 RN 247130-62-7 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-[1,1'-binaphthalene]-2,2'-diyl ester (CA INDEX NAME)

L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

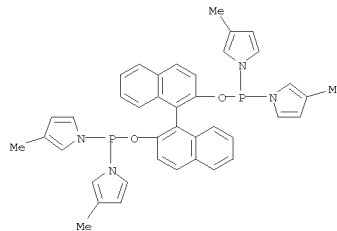


RN 247130-65-0 CAPLUS
 CN Phosphinous acid, P,P-di-1H-indol-1-yl-, P,P'-[1,1'-binaphthalene]-2,2'-diyl ester (CA INDEX NAME)

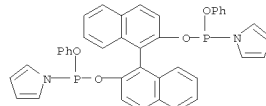


RN 916049-82-6 CAPLUS
 CN Phosphinous acid, P,P-bis(3-methyl-1H-pyrrol-1-yl)-, P,P'-[1,1'-binaphthalene]-2,2'-diyl ester (CA INDEX NAME)

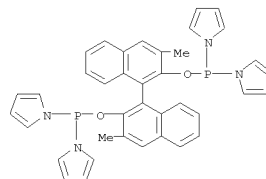
L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 916049-83-7 CAPLUS
 CN Phosphonous acid, P-1H-pyrrol-1-yl-, P,P'-[1,1'-binaphthalene]-2,2'-diyl P,P'-diphenyl ester (CA INDEX NAME)

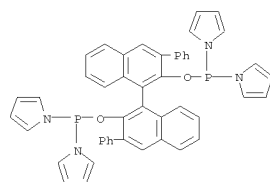


RN 916049-84-8 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-(3,3'-dimethyl[1,1'-binaphthalene]-2,2'-diyl) ester (CA INDEX NAME)

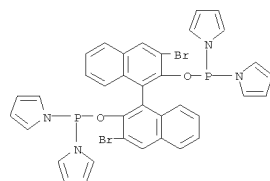


RN 916049-85-9 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-(3,3'-diphenyl[1,1'-binaphthalene]-2,2'-diyl) ester (CA INDEX NAME)

L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

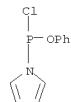


RN 916049-86-0 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-(3,3'-dibromo[1,1'-binaphthalene]-2,2'-diyl) ester (CA INDEX NAME)

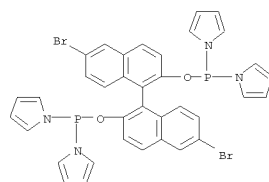


RN 916049-87-1 CAPLUS
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-(6,6'-dibromo[1,1'-binaphthalene]-2,2'-diyl) ester (CA INDEX NAME)

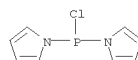
L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphonochloridous acid, P-1H-pyrrol-1-yl-, phenyl ester (CA INDEX NAME)



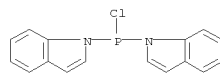
L8 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



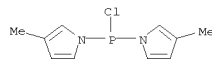
IT 365999-78-6P 916049-88-2P 916049-89-3P
 916049-90-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and application of bidentate phosphoramidite ligand with binaphthol backbone in alkene hydroformylation reaction)
 RN 365999-78-6 CAPLUS
 CN Phosphinous chloride, P,P-di-1H-pyrrol-1-yl- (CA INDEX NAME)



RN 916049-88-2 CAPLUS
 CN Phosphinous chloride, P,P-di-1H-indol-1-yl- (CA INDEX NAME)



RN 916049-89-3 CAPLUS
 CN Phosphinous chloride, P,P-bis(3-methyl-1H-pyrrol-1-yl)- (CA INDEX NAME)



RN 916049-90-6 CAPLUS

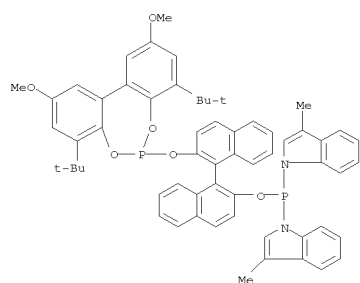
L8 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:653481 CAPLUS
 DOCUMENT NUMBER: 145:63043
 TITLE: Preparation of phosphorus chelate phosphite-phosphorodiamidite ligands for transition metal-catalyzed hydroformylation and addition reactions of alkenes
 INVENTOR(S): Volland, Martin; Papp, Rainer; Hettche, Frank; Jaekel,
 Christoph; Weiskopf, Verena; Paciello, Rocco; Springmann, Steffen
 PATENT ASSIGNEE(S): BASF AG, Germany
 SOURCE: Ger. Offen., 111 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102005061642	A1	20050706	DE 2005-102005061642	20051222
PRIORITY APPLN. INFO.:			DE 2004-1020040623131A	20041223

OTHER SOURCE(S): CASREAC: 145:63043; MARPAT 145:63043
 AB Phosphite-phosphorodiamidite optionally chiral P,P'-chelate ligands R1R2PZYOP(OR3)(OR4) [1; R1, R2 = 5-7-membered N-bound nitrogen heterocyclyl, preferably 1-pyrrolyl, 1-indolyl, optionally R1R2 forming hetero(poly)cycle, as (un)substituted 2,2'- or 3,3'-bipyrrole-1,1'-diyl, 2,2'-biindole-1,1'-diyl; R3, R4 = (cyclo)alkyl, heterocyclyl, aryl, optionally R3OPOR4 = 5-7-membered heterocycle, preferably R3-R4 = 1,1'-biphenyl-2,2'-diyl, 1,1'-binaphthyl-2,2'-diyl; Z = O, S, silylene, imino, preferably Z = O; Y = bivalent carbon-containing group, optionally chiral, preferably Y = (un)substituted 1,1'-binaphthalen-2,2'-diyl, 4,5-xanthenediyl, 1,1'-biphenyl-2,2'-diyl], useful for transition metal-catalyzed hydroformylation, optionally for asym. hydroformylation, hydrogenation, or other asym. addition reactions (no data), were prepared by reaction of L1ZYOL2 (L1, L2 = H, Li, Na, K; same Z, Y) with X1PR1R2 and X2PR3R4 (same R1-R4; X1, X2 = halo) or by reaction of X3ZPZYOPX32 (X3 = halo, preferably X3 = Cl), prepared by reaction of L1ZYOL2 with PCl3, with hydroxy-compds. R3OH, R4OH or HOR3R4OH, and heterocycles R1H, R2H or R1R2H2 and tested in alkene hydroformylation reaction. In an example, compound 1a (R1 = R2 = 3-methyl-1H-indol-1-yl; R3-R4 = 3,3'-di-tert-butyl-5,5'-dimethoxy-1,1'-biphenyl-2,2'-diyl; Z = O, Y = 1,1'-binaphthalen-2,2'-diyl) was prepared by reaction of 4-chlorobinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphin with chlorobis(3-methyl-1H-indol-1-yl)phosphine and 3,3'-di-tert-butyl-5,5'-dimethoxy-1,1'-biphenyl-2,2'-diol at room temperature for 32 h. In another example, 1-butene hydroformylation at 17 atm and 90° by 1:1 CO/H2 catalyzed by Rh(CO)2(acac)/1a (Rh:1a = 1:10) yielded 77% of pentanal containing 4.5% of 2-methylbutanal and 22% of butene-2 byproduct.
 IT 891862-42-3P 891862-43-4P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of phosphite-phosphorodiamidite chelate ligands for

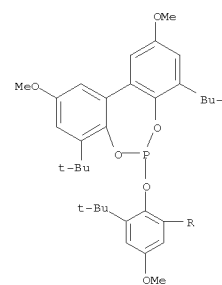
L8 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 rhodium-catalyzed hydroformylation of alkenes)
 RN 891862-42-3 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2'-[[4,8-bis(1,1-dimethylethyl)-2,10-dimethoxydibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy][1,1'-binaphthalen]-2-yl ester (9CI) (CA INDEX NAME)



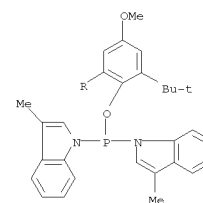
RN 891862-43-4 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2'-[[4,8-bis(1,1-dimethylethyl)-2,10-dimethoxydibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy]-3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy[1,1'-biphenyl]-2-yl ester (9CI) (CA INDEX NAME)

L8 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-A

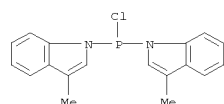


PAGE 2-A



IT 571171-04-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of phosphite-phosphorodiamidite chelate ligands for rhodium-catalyzed hydroformylation of alkenes)
 RN 571171-04-5 CAPLUS
 CN Phosphinous chloride, bis(3-methyl-1H-indol-1-yl)- (9CI) (CA INDEX NAME)

L8 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



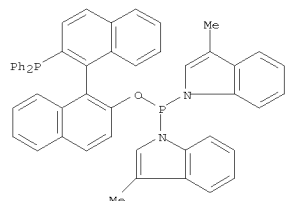
L8 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:387875; CAPLUS
 DOCUMENT NUMBER: 144:432998
 TITLE: Preparation of aminophosphine bidentate chiral ligands
 INVENTOR(S): for asymmetric hydroformylation
 Ahlers, Wolfgang; Egen, Martina; Volland, Martin; Jaekel, Christoph; Hettche, Frank; Paciello, Rocco
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: 29 pp.
 CODEN: GWXXBM
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

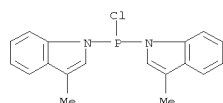
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102004052040	A1	2004-04-27	DE 2004-102004052040	20041026
WO 2006045597	A1	2006-05-04	WO 2005-EP11449	20051025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HK, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, SM, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1807437	A1	2003-07-18	EP 2005-799685	20051025
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 101048419	A	2003-10-03	CN 2005-8003681	20051025
JP 2008517966	T	2003-05-29	JP 2007-538325	20051025
KR 2007068418	A	2003-06-29	KR 2007-709386	20070425
PRIORITY APPLN. INFO.:				DE 2004-102004052040A 20041026
				WO 2005-EP11449 W 20051025

OTHER SOURCE(S): CASREACT 144:432998; MARPAT 144:432998
 AB Chiral bidentate phosphorus ligands R1R2PXVR3R4 [1; R1, R2 or R1R2 = 5-7-membered heterocyclyl N- or O-bound to P, preferably R1, R2 = substituted 1-pyrrolyl, 1-indolyl 9-carbazolyl, more preferably R1 or R2 = 3-methyl-1-indolyl; preferably R1R2 = benzo-, cyclohexeno-, pyrrolo-indolo-annelated 1,3,2-diazaphosphol-2-yl, 1,3,2-diazaphosphepin-2-yl, R1-R2 = 2-(2-oxyaryl)methyl-1-pyrrolyl, 2-(2-oxyaryl)methyl-1-indolyl, 2-(2-oxyaryl)thio-1-pyrrolyl, 2-(2-oxyaryl)oxy-1-pyrrolyl; R3, R4 = (hetero)aryl, preferably R3, R4 = Ph, 2-C6H4, m-xylyl, 3,5-Me2-4-MeOC6H2; X = O, S, silylene, imino; Y = chiral divalent organyl, preferably Y = substituted 1,1'-biphenyl-2,2'-diyl, 1,1'-binaphthyl-2,2'-diyl], useful for asym. metal-catalyzed reactions, preferably for asym. hydroformylation, catalyzed by Group VIII metals, were prepared by condensation of compds. R1R2PCL with functional derivs. HY. In an example, reaction of 3-methylindole with PCL3 gave chlorobis(3-methylindol-

L8 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 1-yl)phosphine, which reacted with (R)-2'-(diphenylphosphino)-1,1'-
 binaphthalen-2-ol giving 1 [(R)-BINASKAT, R1, R2 = 3-methylindol-1-yl, X
 =
 O, Y = 1,1'-binaphthalene-2,2'-diyl, R3 = R4 = Ph]. In another example,
 asym. hydroformylation of styrene catalyzed by
 Rh(CO)2(acac)/(R)-BINASKAT gave α -methylbenzeneacetaldehyde with 98%
 yield and 60% ee.
 IT 885029-41-4P, (R)-BINASKAT
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of bidentate binaphthol dipyrrolyl and diindolyl
 phosphorodiamidite-phosphines as chiral ligands for asym. catalytic
 reactions)
 RN 885029-41-4 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, (1R)-2'-
 (diphenylphosphino)[1,1'-binaphthalen]-2-yl ester (9CI) (CA INDEX NAME)



IT 571171-04-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of bidentate binaphthol dipyrrolyl and diindolyl
 phosphorodiamidite-phosphines as chiral ligands for asym. catalytic
 reactions)
 RN 571171-04-5 CAPLUS
 CN Phosphinous chloride, bis(3-methyl-1H-indol-1-yl)- (9CI) (CA INDEX NAME)



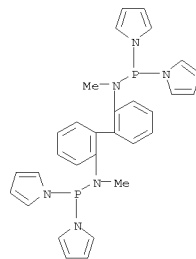
L8 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2006:231908 CAPLUS
 DOCUMENT NUMBER: 144:313994
 TITLE: Phosphorus-containing catalyst composition and
 process
 INVENTOR(S): for hydroformylation reaction using the same
 Jeon, You Moon; Ko, Donghyun; Eom, Sungshik; Kwon, O.
 Hak; Choi, Jaehui
 PATENT ASSIGNEE(S): S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 9 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060058558	A1	20060316	US 2005-227479	20050915
KR 2006025026	A	20060320	KR 2004-73919	20050915
KR 744477	B1	20070801		
WO 2006031068	A1	20060323	WO 2005-KR3055	20050915
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HK, ID, IL, IN, IS, JP, KE, KG, KM, KN, KR, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
CN 1909964	A	20070207	CN 2005-80002703	20050915
EP 1789185	A1	20070530	EP 2005-808509	20050915
R: DE, FR, GB, SE				
JP 2007521947	T	20070809	JP 2006-550967	20050915
PRIORITY APPLN. INFO.:			KR 2004-73919	A 20040815
			WO 2005-KR3055	W 20050915

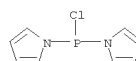
OTHER SOURCE(S): MARPAT 144:313994
 AB Provided are a catalyst composition including a transition metal
 catalyst and a
 nitrogen-containing bidentate phosphorus compound and a process for
 hydroformylation reaction of olefins to prepare aldehydes which
 includes stirring the catalyst composition, an olefin compound, and a
 gas mixture
 of of carbon monoxide and hydrogen, under high temperature and pressure
 condition. Therefore, very high catalytic activity and high selectivity
 in n-aldehyde or iso-aldehyde according to the type of a substituent are
 ensured.
 IT 879296-88-5P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)
 (phosphorus-containing catalyst composition and process for
 hydroformylation reaction using the same)
 RN 879296-88-5 CAPLUS

L8 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L8 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphinous amide, N,N'-[1,1'-biphenyl]-2,2'-diylbis[N-methyl-P,P-di-1H-
 pyrrol-1-yl]- (9CI) (CA INDEX NAME)



IT 365999-78-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (phosphorus-containing catalyst composition and process for
 hydroformylation reaction using the same)
 RN 365999-78-6 CAPLUS
 CN Phosphinous chloride, P,P-di-1H-pyrrol-1-yl- (CA INDEX NAME)

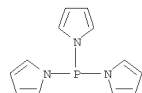


L8 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:1329709 CAPLUS
 DOCUMENT NUMBER: 144:71485
 TITLE: Phosphorus-containing catalyst compositions and hydroformylation process therewith
 INVENTOR(S): Jeon, You-Moon; Ko, Dong-Hyun; Kwon, O-Hak; Eom, Sung-Shik; Lee, Sang-Gi; Moon, Ji-Joong; Park, Kwang-Ho
 PATENT ASSIGNEE(S): LG Chem. Ltd., S. Korea
 SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005120705	A1	20051222	WO 2004-KR1646	20040703
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2005118023	A	20051215	KR 2004-43334	20040612
CN 1863595	A	20061115	CN 2004-80029312	20040703
EP 1755782	A1	20070228	EP 2004-774072	20040703
R: DE, FR, GB, SE				
JP 2007507340	T	20070329	JP 2006-532068	20040703
US 20070123735	A1	20070531	US 2006-575147	20060407
PRIORITY APPLN. INFO.:			KR 2004-43334	A 20040612
			WO 2004-KR1646	W 20040703

OTHER SOURCE(S): MARPAT 144:71485
 AB Provided are a catalyst composition comprising a bidentate ligand, a monodentate ligand, and a transition metal catalyst and a process of hydroformylation of olefin compds., comprising reacting the olefin compound with a gas mixture of hydrogen and carbon monoxide while being stirred at elevated pressures and temps. in the presence of the catalyst composition to produce an aldehyde. The present catalytic composition demonstrates the high catalytic activity and option control of selectivity to normal aldehyde or iso aldehyde (N/I selectivity) to a desired value.
 IT 247130-61-6
 RL: CAT (Catalyst use); USES (Uses)
 (phosphorus-containing catalyst compns. and hydroformylation process therewith)
 RN 247130-61-6 CAPLUS

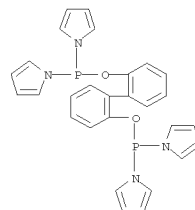
L8 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:511183 CAPLUS
 DOCUMENT NUMBER: 143:195529
 TITLE: Rhodium(I) complexes with 1'-(diphenylphosphino)ferrocenecarboxylic acid as active and recyclable catalysts for 1-hexene hydroformylation
 AUTHOR(S): Trzeciak, Anna M.; Stepnicka, Petr; Mieczynska, Ewa; Ziolkowski, Jozef J.
 CORPORATE SOURCE: Faculty of Chemistry, University of Wroclaw, Wroclaw, 50 383, Pol.
 SOURCE: Journal of Organometallic Chemistry (2005), 690 (13), 3260-3267
 CODEN: JORCAL; ISSN: 0022-328X
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:195529
 AB The Rh complex trans-[Rh(CO)(Hdpf-κP)(dpf-κ2 O,P)] (I), (Hdpf = 1'-(diphenylphosphino)ferrocenecarboxylic acid) is an efficient and recyclable catalyst for 1-hexene hydroformylation, producing ca. 80% of aldehydes at 10 atm CO/H₂ and 80°. After the reaction, I was separated from the reaction mixture and used again three times with the same catalytic activity. The effect of modifying ligands, phosphines and phosphites, on the reactivity of I was studied. The active catalytic systems containing I or trans-[Rh(CO)(L)(dpf-κ2 O,P)] (II) were formed in situ from acetylacetonato rhodium(I) precursors [Rh(CO)₂(acac)] or [Rh(L)(CO)(acac)] and Hdpf or Medpf (L = phosphine, Medpf = Me ester of Hdpf).
 IT 60259-30-5, Tris(1-pyrrolyl)phosphine
 RL: CAT (Catalyst use); USES (Uses)
 (co-catalyst ligand; selectivity of Rh-diphenylphosphino-ferrocenecarboxylic acid recyclable catalysts for 1-hexene hydroformylation and role of co-catalyst ligand)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidynetris- (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L8 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-[1,1'-biphenyl]-2,2'-diyl ester (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L8 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:402455 CAPLUS
 DOCUMENT NUMBER: 142:465434
 TITLE: Method for the continuous production of aldehydes
 INVENTOR(S): Volland, Martin; Mackewitz, Thomas; Ahlers, Wolfgang; Schaefer, Ansgar; Richter, Wolfgang; Paciello, Rocco
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 86 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005042458	A2	20050812	WO 2004-EP11530	20041014
WO 2005042458	A3	20050809		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1678113	A2	20060312	EP 2004-765959	20041014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871199	A	200608129	CN 2004-80029310	20041014
JP 2007509093	T	20070412	JP 2006-536003	20041014
US 20070004939	A1	20070104	US 2006-575843	20060413
PRIORITY APPLN. INFO.:			DE 2003-1824082	A 20031021
			DE 2004-102004041144A	20040824
			WO 2004-EP11530	W 20041014

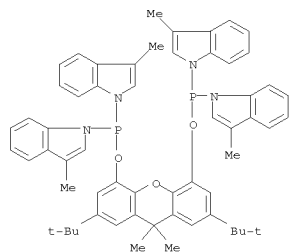
OTHER SOURCE(S): CASREACT 142:465434; MARPAT 142:465434
 AB The invention relates to a method for the continuous production of aldehydes comprising between 5 and 21 carbon atoms, by the isomerizing hydroformylation in a homogeneous phase of olefin compns. comprising between 4 and 20 carbon atoms and containing α-olefins and olefins with internal double bonds, by means of a synthesis gas, in the presence of a homogeneous catalyst that is based on Rh complexed with an organophosphorus ligand containing oxygen atoms and/or nitrogen atoms.
 Said production is carried out at high temperature and high pressure in a multi-stage reaction system consisting of at least two reaction zones. According to said method, the olefin composition is first reacted in a first reaction zone or a group of several first reaction zones at a total pressure of between 10 and 40 bar, using a synthesis gas with a CO/H₂ molar ratio of between 4:1 and 1:2 until a 40 to 95 % conversion of the α-olefins is

L8 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 obtained. The hydroformylation product from the first reaction zone or group of several first reaction zones is then reacted in a subsequent reaction zone or group of several reaction zones at a total pressure of between 5 and 30 bar, using a synthesis gas with a CO/H₂ molar ratio of between 1:4 and 1:1000. The total pressure in the subsequent reaction zone or zones is resp. 1 to (G1-GF) bar lower than that of the preceding reaction zone, whereby G1 represents the total pressure in the resp. preceding reaction zone and Gf represents the total pressure in the resp. reaction zone that succeeds said first reaction zone or zones, with the proviso that the difference between G1 and Gf is greater than 1 bar and the partial CO pressure in the subsequent reaction zone or zones is resp. lower than that of the preceding reaction zone. This process provides aldehydes at higher n-selectivity and space-time yields.

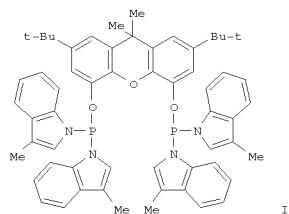
IT 472986-82-6P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(continuous production of aldehydes by reaction of olefins with synthesis gas in presence of isomerization-hydroformylation catalysts based on rhodium complexed with organophosphorus ligands)

RN 472986-82-6 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



L8 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



AB Olefins are hydroformylated in a 2-step procedure in which (a) an olefin-containing feed, CO and H are fed into a 1st reaction zone and reacted in the presence of a catalytic liquid containing dissolved platinum-group metal compds. with phosphoramidate ligands (such as I), whereby this fluid being brought into contact with a N-containing base, (b) a liquid stream comprising unreacted olefins, a catalyst and optionally saturated hydrocarbons is separated from the discharge from the 1st reaction zone and are fed into a 2nd reaction zone.

IT 472986-82-6P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (olefin hydroformylation catalysts containing platinum-group metal compds. with phosphoramidate ligands and N-containing base)

RN 472986-82-6 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

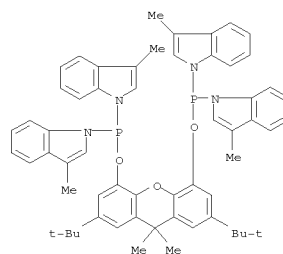
L8 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:395195 CAPLUS
 DOCUMENT NUMBER: 142:448575
 TITLE: Stabilization of hydroformylation catalysts based on phosphoramidate ligands.
 INVENTOR(S): Papp, Rainer; Ahlers, Wolfgang; Mackewitz, Thomas; Paciello, Rocco; Volland, Martin
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: BASF, Appl., 65 pp.
 CODEN: FIXX22
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005039762	A1	20050506	WO 2004-EP11986	20041022
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10349343	A1	20050602	DE 2003-10349343	20031023
EP 1677911	A1	20060712	EP 2004-790777	20041022
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1871066	A	20061129	CN 2004-80031333	20041022
US 20060224000	A1	20061005	US 2006-576282	20060419
PRIORITY APPLN. INFO.:			DE 2003-10349343	A 20031023
			WO 2004-EP11986	W 20041022

OTHER SOURCE(S): MARPAT 142:448575
 GI

INSTANT APPLICATION

L8 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



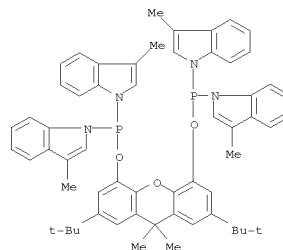
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L8 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:300375 CAPLUS
DOCUMENT NUMBER: 142:375555
TITLE: Manufacture of 1,7-octadiene from cyclohexene and ethylene
INVENTOR(S): Boehm, Volker; Roeper, Michael; Stephan, Juergen; Benfer, Regina; Schubert, Markus; Karl, Joern; Ebel, Klaus; Loeber, Oliver; Volland, Martin
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030681	A1	20050407	WO 2004-EP10435	20040917
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10344690	A1	20050414	DE 2003-10344690	20030925
EP 1667950	A1	20060614	EP 2004-765331	20040917
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
CN 1860086	A	20061108	CN 2004-80028057	20040917
JP 2007506691	T	20070322	JP 2006-527323	20040917
MX 2006PA02569	A	20060605	MX 2006-PA2569	20060306
US 20070083066	A1	20070412	US 2006-572077	20060316
IN 2006CN01402	A	20070706	IN 2006-CN1402	20060424
PRIORITY APPLN. INFO.:			DE 2003-10344690	A 20030925
			WO 2004-EP10435	W 20040917

OTHER SOURCE(S): CASREACT 142:375555
AB 1,7-Octadiene is manufactured by catalytic metathesis reaction of cyclohexene with ethylene in a process in which unconverted reactants and, optionally, high-boiling byproducts are returned in purified form to the reaction mixture. For example, passing 60 g/h cyclohexene and 80 g/h ethylene through a tubular reactor packed with 40 g catalyst comprising 10% Re2O7 on Al2O3 and kept at 60° gave, after 15 h, 7.9% conversion to product mixture containing 97.3% 1,7-octadiene and 2.0% 1,7,13-tetradecatriene. Hydroformylation of 1,7-octadiene in presence of Rh complex

L8 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
catalyst (prepn. given) gave 1,10-decanedial which was subjected to aldol condensation with acetone to give a mixt. of dodecanone, tridecanal-12-one and 2,15-hexadecanedione. Intramol. aldol of 2,15-hexadecanedione gave a mixt. of dehydromuscovone derivs. which were hydrogenated to give muscove. 472986-82-6P
IT 472986-82-6P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(hydroformylation catalyst; manufacture of octadiene from cyclohexene and ethylene)
RN 472986-82-6 CAPLUS
CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



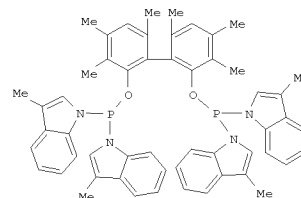
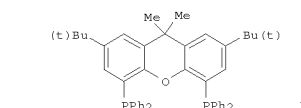
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:99448 CAPLUS
DOCUMENT NUMBER: 142:179273
TITLE: Two-stage hydroformylation of butenes
INVENTOR(S): Ahlers, Wolfgang; Paciello, Rocco; Zeller, Edgar; Volland, Martin; Flores, Miguel Angel
PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005009934	A2	20050203	WO 2004-EP8209	20040722
WO 2005009934	A3	20050407		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10333519	A1	20050217	DE 2003-10333519	20030723
PRIORITY APPLN. INFO.:			DE 2003-10333519	A 20030723

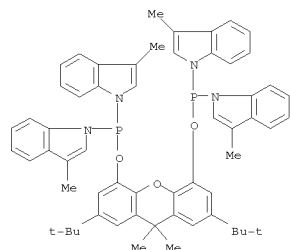
OTHER SOURCE(S): MARPAT 142:179273
GI

L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

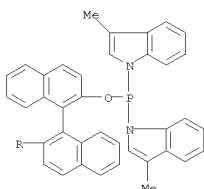


AB Olefins, especially C4 hydrocarbon mixts. containing 1- and 2-butene, are hydroformylated in a 2-stage procedure in which (a) an olefin-containing feed, CO and H are fed into a 1st reaction zone and reacted in the presence of a 1st catalyst system for hydroformylation of 1-butene with higher n-selectivity, (b) a liquid stream comprising unreacted olefins and optionally saturated hydrocarbons is separated from the discharge from the 1st reaction zone, (c) the liquid stream obtained in step (b), CO and H are fed into a 2nd reaction zone and reacted in the presence of a 2nd catalyst system suitable for isomerization hydroformylation of 2-butene with high n-selectivity. The catalysts used for the 1st and 2nd hydroformylation stage are known transition metal compds. and complexes (structures specified). For example, hydroformylation of C4 fraction (raffinate II) with synthesis gas for 4 h at 20 bar and 90° in the presence of Rh(CO)2acac catalyst with ligand I in the 1st stage gave 1-butene conversion 65% and valeraldehyde yield 15% with 98.4% linearity. Hydroformylation of the latter product for 4 h at 17 bar and 90° with 1:2 CO/H mixture in the presence of Rh(CO)2acac catalyst with ligand II in the 2nd stage gave 1-butene conversion 84%, 2-butene conversion 38% and valeraldehyde yield 28% with 96.2% linearity.
IT 472986-82-6 832673-33-3 832673-34-4
RL: CAT (Catalyst use); USES (Uses)
(ligand; two-stage hydroformylation of butenes)
RN 472986-82-6 CAPLUS
CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-

L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



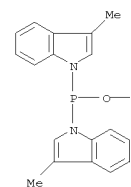
RN 832673-33-3 CAPLUS
CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, [1,1'-binaphthalene]-2,2'-diyl ester (9CI) (CA INDEX NAME)



PAGE 1-A

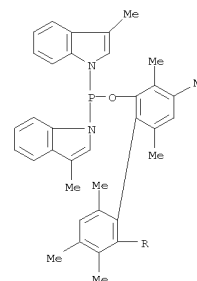
L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 2-A



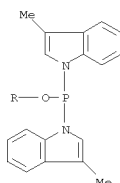
RN 832673-34-4 CAPLUS
CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 3,3',4,4',6,6'-hexamethyl[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



L8 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 2-A



L8 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:525953 CAPLUS
DOCUMENT NUMBER: 141:89007
TITLE: Procedure for the production of mono pnicogetic compounds
PATENT ASSIGNEE(S): BASF Ag, Germany
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10260797	A1	20040701	DE 2002-10260797	20021223

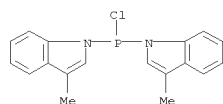
PRIORITY APPLN. INFO.: DE 2002-10260797 20021223

OTHER SOURCE(S): MARPAT 141:89007
GI

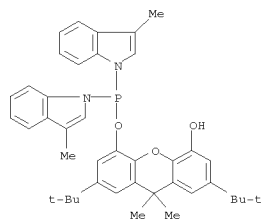
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention concerns new mono pnicogetic compds.,
R1R2Pn(O)aYOR3
[Pn = pnicogetic atom (P, As, Sb); R1 = pyrrole, indole, dibenzopyrrole (each bonded at N); R2 = alkyl, alkoxy, aryl, aryloxy, cycloalkyl, cycloalkoxy, heterocycloalkyl, heterocycloalkoxy; R1R2 = double-bonded heteroatom containing group, with one of R1 and R2 = pyrrole; a = 0, 1; Y = 2 - 10 atom bridge; R3 = H, alkyl, aryl, cycloalkyl, heterocycloalkyl, heteroaryl, silyl], catalysts from a complex of a group VIII metals (e.g., Co, Ni, Rh, Ru, Ir), a procedure for hydroformylation, and a procedure for the production of 2-propylheptanol over a transition metal complex and a mono pnicogetic compound as ligands under application of these catalysts and further uses of these catalysts. Thus, pnicogetic compound I was prepared from 3-methylindole via reaction with PCl3 in PhMe, followed by esterification with xanthenediol II. Ligand I was then used in the hydroformylation of trans-2-butene with syngas (CO:H2 1:1) over dicarbonylrhodium acetylacetonate to give 67% of the aldehyde.
IT 571171-04-5P, Bis(3-methylindol-1-yl)chlorophosphine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
[preparation and reaction of, with xanthene and biphenyl alcs.; preparation of mono pnicogetic compds. as ligands for hydroformylation, aldol condensation and other catalysts)
RN 571171-04-5 CAPLUS
CN Phosphinous chloride, bis(3-methyl-1H-indol-1-yl)- (9CI) (CA INDEX NAME)

L8 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

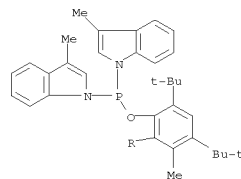
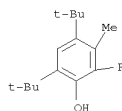


IT 714956-03-3P 714956-04-4P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of mono pnicogetic compds. as ligands for
 hydroformylation, aldol condensation and other catalysts)
 RN 714956-03-3 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-,
 2,7-bis(1,1-dimethylethyl)-
 5-hydroxy-9,9-dimethyl-9H-xanthen-4-yl ester (9CI) (CA INDEX NAME)



RN 714956-04-4 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 3,3',5,5'-tetrakis(1,1-dimethylethyl)-2'-hydroxy-6,6'-dimethyl[1,1'-biphenyl]-2-yl ester (9CI)
 (CA INDEX NAME)

L8 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



L8 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:323572 CAPLUS
 DOCUMENT NUMBER: 141:306344
 TITLE: Structure, electrochemistry and hydroformylation catalytic activity of the bis(pyrazolylborato)rhodium(I) complexes [RhBp(CO)P] [P = P(NC4H4)3, PPh3, PCy3, P(C6H4OMe-4)3]
 AUTHOR(S): Trzeciak, Anna M.; Borak, Beata; Ciunik, Zbigniew; Ziolkowski, Jozef J.; Fatima, M.; Da Silva, C.
 Guedes;
 CORPORATE SOURCE: Pombeiro, Armando J. L.
 Faculty of Chemistry, University of Wroclaw, Wroclaw, 50-383, Pol.
 SOURCE: European Journal of Inorganic Chemistry (2004), (7), 1411-1419
 CODEN: EJICFO; ISSN: 1434-1948
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:306344
 AB Rh complexes [RhBp(CO)P] [Bp = bis(pyrazolylborate), P = P(NC4H4)3 1, PPh3
 2, PCy3 3, P(C6H4OMe-4)3 4] were prepared by exchange of the acetylacetonate (acac-) ligand in [Rh(acac)(CO)P] complexes. The spectroscopic and electrochem. properties as well as x-ray data of [Rh(acac)(CO)P] and [RhBp(CO)P] complexes were compared with the aim to estimate the relative donor properties of both anionic ligands (acac- and Bp-). The cyclic voltammetric results indicate that the Bp- ligand behaves as a much stronger electron donor than acac- and a value of the Lever EL ligand parameter identical to that of the pyrazolate ligand (-0.24 V vs. normal

H electrode for each coordinating arm) is proposed for the bis- and tris(pyrazolyl)borate ligands, whereas P(C6H4OMe-4)3 also has an identical EL value (0.69 V) to that of P(NC4H4)3. An improved linear relation between the oxidation potential and the sum of the ligand EL values for square-planar RhI complexes is also obtained and adjusted values for the Lever SM and IM parameters for the RhI/RhII redox couple are given. The trans influence of phosphines was not observed in crystals of complexes 2 and 3, in contrast to analogous acetylacetonate complexes in which the Rh-O bonds differ by .apprx.0.04-0.06 Å. Complexes 1-4 are very attractive precursors for hydroformylation catalysts and yields of aldehydes of 80-87% were obtained with all complexes without extra phosphine as co-catalyst. During the hydroformylation reaction, however, small amts. of a catalytically inactive [RhBp(CO)2] complex were formed.

IT 763095-70-1P
 RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
 (preparation, cyclic voltammetry, and catalyst for hydroformylation of hexene)
 RN 763095-70-1 CAPLUS
 CN Rhodium, carbonyl[dihydrobis(1H-pyrazolato-κN1)borato(1-)-κN2,κN2'] [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

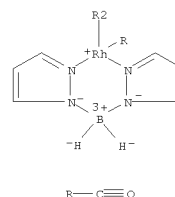
3, in contrast to analogous acetylacetonate complexes in which the Rh-O bonds differ by .apprx.0.04-0.06 Å. Complexes 1-4 are very attractive precursors for hydroformylation catalysts and yields of aldehydes of 80-87% were obtained with all complexes without extra phosphine as co-catalyst. During the hydroformylation reaction, however, small amts. of a catalytically inactive [RhBp(CO)2] complex were formed.

IT 763095-70-1P
 RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
 (preparation, cyclic voltammetry, and catalyst for hydroformylation of hexene)
 RN 763095-70-1 CAPLUS
 CN Rhodium, carbonyl[dihydrobis(1H-pyrazolato-κN1)borato(1-)-κN2,κN2'] [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

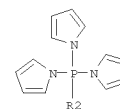
RN 763095-70-1 CAPLUS
 CN Rhodium, carbonyl[dihydrobis(1H-pyrazolato-κN1)borato(1-)-κN2,κN2'] [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

L8 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

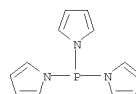
PAGE 1-A



PAGE 2-A



IT 60259-30-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (substitution of rhodium(I) acetylacetonate dicarbonyl with bis(pyrazolyl)borate and phosphines)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidyne- (CA INDEX NAME)

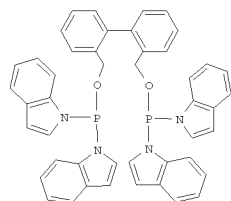


REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L8 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:249246 CAPLUS
 DOCUMENT NUMBER: 140:271009
 TITLE: Preparation of pnictogenic compounds as cocatalysts for transition metal catalyzed hydroformylation reaction
 INVENTOR(S): Ahlers, Wolfgang; Volland, Martin; Wiebelhaus, Dag; Paciella, Rocco; Bartsch, Michael
 PATENT ASSIGNEE(S): BASF AG, Germany
 SOURCE: Ger. Offen., 45 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10342760	A1	20040325	DE 2003-10342760	20030916
PRIORITY APPLN. INFO.:			DE 2002-10243138	1A 20020917

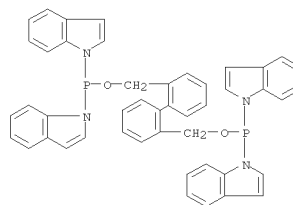
OTHER SOURCE(S): CASREACT 140:271009; MARPAT 140:271009
 GI



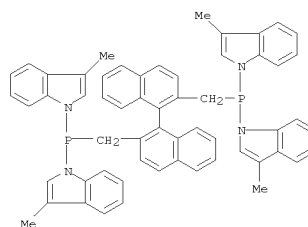
I

AB The present invention concerns preparation of new pnictogenic compds., cocatalysts, for transition metal catalyzed hydroformylation reaction. Thus, phosphination of indole with PCl3 in the presence of Et3N in THF followed by condensation with 2,2'-biphenyldimethanol in THF gave 40% title compound I, which was used as cocatalyst for Rh(CO)2(acac) catalyzed hydroformylation of 1-butene.
 IT 674799-90-7P 674799-91-8P 674799-92-9P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

L8 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 USES (Uses) (prepn. of aminophosphites as cocatalysts for transition metal catalyzed hydroformylation reaction)
 RN 674799-90-7 CAPLUS
 CN Phosphinous acid, di-1H-indol-1-yl-, [1,1'-biphenyl]-2,2'-diylbis(methylene) ester (9CI) (CA INDEX NAME)

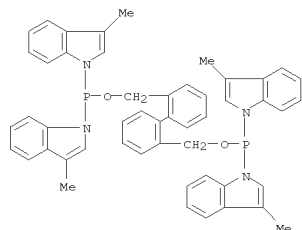


RN 674799-91-8 CAPLUS
 CN 1H-Indole, 1,1',1'',1'''-[[1,1'-binaphthalene]-2,2'-diyl(methylenephosphinidyl)]tetrakis[3-methyl- (9CI) (CA INDEX NAME)



RN 674799-92-9 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, [1,1'-biphenyl]-2,2'-diylbis(methylene) ester (9CI) (CA INDEX NAME)

L8 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



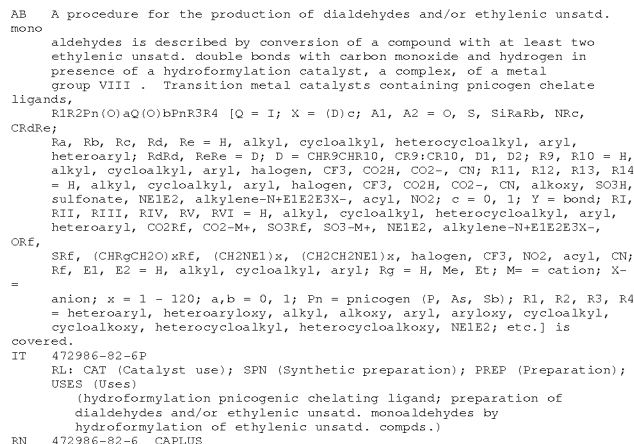
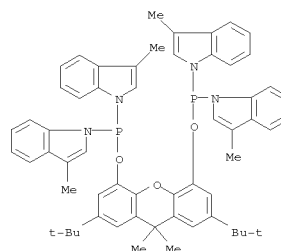
L8 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:218467 CAPLUS
 DOCUMENT NUMBER: 140:270370
 TITLE: Procedure for the production of dialdehydes and/or ethylenic unsaturated mono aldehydes by hydroformylation of ethylenic unsaturated compounds
 INVENTOR(S): Volland, Martin; Ahlers, Wolfgang; Ebel, Klaus; Paciello, Rocco; Roeper, Michael; Mackewitz, Thomas; Boehm, Volker; Sava, Xavier; Loeber, Oliver; Bey, Oliver; Stephan, Juergen; Haese, Frank
 PATENT ASSIGNEE(S): BASF AG, Germany
 SOURCE: Ger. Offen., 41 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10242636	A1	20040318	DE 2002-10242636	20020913
WO 2004026803	A1	20040401	WO 2003-EP10166	20030912
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003267348	A1	20040408	AU 2003-267348	20030912
EP 1539666	A1	20050615	EP 2003-748014	20030912
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
CN 1681760	A	20051012	CN 2003-821768	20030912
US 2006005264	T	20051215	JP 2004-537069	20030912
US 7145042	A1	20060309	US 2005-527635	20050314
PRIORITY APPLN. INFO.:			DE 2002-10242636	A 20020913
			WO 2003-EP10166	W 20030912

OTHER SOURCE(S): CASREACT 140:270370; MARPAT 140:270370
 GI

L8 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
CN Phosphinic acid, bis(3-methyl-1H-indol-1-yl)-,
2,7-bis(1,1-dimethylethyl)-
9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



L/8 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2008 ACS ON STN
 ACCESSION NUMBER: 2003:633719 CAPLUS
 DOCUMENT NUMBER: 139:164887
 TITLE: Preparation of phosphorus chelate compounds useful as
 catalysts
 INVENTOR(S): Ahlers, Wolfgang; Paciello, Rocco
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 53 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

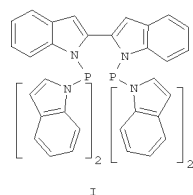
L8 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)
one such phosphorus chelate compd. as a ligand, and
hydroformylation method using said catalysts. Thus, reaction of
o-toluidine with oxalyl chloride in the presence of Et3N in THF gave 65%
N,N-bis-o-tolylamide which on treatment with KOH-t gave 50%
bisindolyl.
Reaction of bisindolyl with PCl3 in the presence of Et3N and indole gave
title phosphorus compd. I. Rh(CO)2(acac)/I catalyzed
hydroformylation of 1-butene/2-butene/butane mixt. gave aldehyde
with 92% linear selectivity.

IT 577786-39-1P
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent); USES (Uses)
(Preparation of phosphorus chelate compds. useful as catalysts)

RN 577786-39-1 CAPLUS
CN 2,2'-Bi-1H-indole, 1,1'-bis(di-1H-indol-1-ylphosphino)- (CA INDEX NAME)

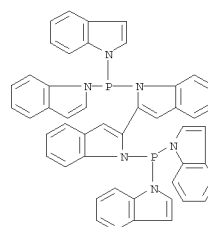
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003066642	A1	20030814	WO 2003-EP1245	20030207
W: AE, AG, AL, AM, AT, AU, AZ, BE, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MN, MM, MX, NZ, OM, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
FW: GH, GM, KE, LS, MW, MZ, SD, SL, SS, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, MT, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10253631	A1	20030821	DE 2002-10205361	20020820
AU 2003210225	A1	20030902	AU 2002-210225	20020207
PRIORITY APPLIN. INFO.:			DE 2002-10205361	A 20020820
			WO 2003-EP1245	W 20020207

OTHER SOURCE(S): CASREACT 139:164887; MARPAT 139:164887
GU



AB The invention relates to new phosphorus chelate compds., catalysts containing at least one complex of a metal belonging to subgroup VIII and at least

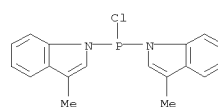
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT



L8 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:591192 CAPLUS
 DOCUMENT NUMBER: 139:149757
 TITLE: Method for the separation of acids from chemical reaction mixtures by means of ionic fluids
 INVENTOR(S): Volland, Martin; Seitz, Verena; Maase, Matthias; Flores, Miguel; Papp, Rainer; Massonne, Klemens; Stegmann, Veit; Halbritter, Klaus; Noe, Ralf;
 Bartsch, Michael; Siegel, Wolfgang; Becker, Michael; Reitenlocher, Oliver
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 111 PP.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

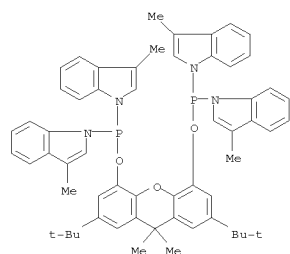
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003062251	A1	20030731	WO 2003-EP549	20030121
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10202838	A1	20030807	DE 2002-10202838	20020124
DE 10230222	A1	20040122	DE 2002-10230222	20020704
DE 10248902	A1	20040429	DE 2002-10248902	20021018
DE 10251140	A1	20040513	DE 2002-10251140	20021031
CA 2473954	A1	20030731	CA 2003-2473954	20030121
EP 1470136	A1	20041027	EP 2003-704443	20030121
EP 1470136	B1	20070328		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2005515258	T	20050526	JP 2003-562128	20030121
CN 1622948	A	20050601	CN 2003-802742	20030121
AT 358134	T	20070415	AT 2003-704443	20030121
ES 2283749	T3	20071101	ES 2003-704443	20030121
CN 101157592	A	20080409	CN 2007-10166633	20030121
US 20050020857	A1	20050127	US 2004-500145	20040709
ZA 2004006664	A	20060628	ZA 2004-6664	20040823
US 20080083606	A1	20080410	US 2007-952242	20071207
PRIORITY APPLN. INFO.:			DE 2002-10202838	A 20020124
			DE 2002-10230222	A 20020704
			DE 2002-10248902	A 20021018

L8 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 DE 2002-10251140 A 20021031
 CN 2003-802739 A3 20030121
 WO 2003-EP549 W 20030121
 US 2004-500145 A3 20040709
 OTHER SOURCE(S): CASREACT 139:149757; MARPAT 139:149757
 AB Disclosed is a method for producing aminodihalophosphines, diaminochalophosphines, triaminophosphines, phosphite diamides, aminophosphines, diaminothiophosphines, phosphite amide halogenides, and phosphonophosphine halogenides by separating an acid in the presence of an auxiliary base. Said auxiliary base (b) forms a salt with an acid, which is decomposed during separation of the liquid salt, and (c) the salt of the auxiliary base and the valuable product or the solution of the valuable product form two immiscible phases in a suitable solvent. Thus, reaction of dichloro(phenyl)phosphine with EtOH in presence of 1-methylimidazole (auxiliary base) followed by separation of immiscible 1-methylimidazole containing ionic liquid gave up to 96% of diethoxyphenylphosphine.
 IT 571171-04-5P
 R1: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 reaction (method for separation of acids with auxiliary base from chemical mixts. by means of ionic fluids in organic synthesis)
 RN 571171-04-5 CAPLUS
 CN Phosphinous chloride, bis(3-methyl-1H-indol-1-yl)- (9CI) (CA INDEX NAME)



IT 472986-82-6P
 R1: SPN (Synthetic preparation); PREP (Preparation)
 reaction (method for separation of acids with auxiliary base from chemical mixts. by means of ionic fluids in organic synthesis)
 RN 472986-82-6 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

L8 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

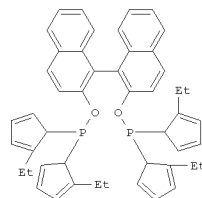


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L8 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:177503 MARPAT 138:206869
 DOCUMENT NUMBER: 138:206869
 TITLE: Method for the manufacture of 2-propylheptanol and novel hydroformylation catalyst
 INVENTOR(S): Ahlers, Wolfgang; Paciello, Rocco; Mackewitz, Thomas; Volland, Martin
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 111 PP.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003018192	A2	20030306	WO 2002-EP9455	20020823
WO 2003018192	A3	20031113		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2002324067	A1	20030310	AU 2002-324067	20020823
PRIORITY APPLN. INFO.:			DE 2001-10141494	A 20010824
			WO 2002-EP9455	W 20020823

OTHER SOURCE(S): MARPAT 138:206869
 GI

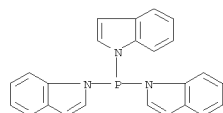


AB A method for the manufacture of 2-propylheptanol, useful for production of ester

L8 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 plasticizers, comprises hydroformylation of butene, aldol condensation of the resulting hydroformylation product contg. valeraldehyde, and hydrogenation of aldol condensate to the alc. in the presence of complex catalyst comprising group VIII metal and pyrrole deriv.-contg. ligands. The storage stability of the ligands was enhanced by introducing suitable substituents into the pyrrole ring. For example, hydrogenation of 1-octene with synthesis gas (10 bar) for 4 h at 100° in the presence of Rh(CO)2acac and ligand I (prepn. from 2,2'-dihydroxy-1,1'-biphenyl and 2-ethylpyrrole given) which was stored for 10 days at ambient temp. under Ar proceeded with conversion 92%, the aldehyde selectivity 60%, linearity 89% and selectivity for inner olefins 40%, vs. 98, 59, 99 and 44%, resp., for analogous expt. in which the catalyst comprised a similar ligand contg. unsubstituted pyrrole rings.

IT 179611-77-9
 RL: CAT (Catalyst use); USES (Uses)
 (storage-stable hydroformylation catalyst for manufacture of propylheptanol)

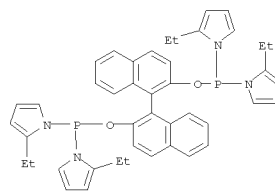
RN 179611-77-9 CAPLUS
 CN 1H-Indole, 1,1',1''-phosphinidynetris- (CA INDEX NAME)



IT 500582-95-6P
 RL: CAT (Catalyst use); IMP (Industrial manufacture); PREP (Preparation); USES (Uses)
 (storage-stable hydroformylation catalyst for manufacture of propylheptanol)

RN 500582-95-6 CAPLUS
 CN Phosphinous acid, bis(2-ethyl-1H-pyrrol-1-yl)-, [1,1'-binaphthalene]-2,2'-diyl ester (9CI) (CA INDEX NAME)

L8 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



L8 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:56043 CAPLUS
 DOCUMENT NUMBER: 138:108651
 TITLE: Manufacture of saturated aliphatic C3-30 carboxylic acids from butenes
 INVENTOR(S): Buehler, Holger; Papp, Rainer; Maas, Heiko; Slany, Michael; Breuer, Klaus; Ahlers, Wolfgang
 PATENT ASSIGNEE(S): BASF AG, Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10239134	A1	20030123	DE 2002-10239134	20020827

PRIORITY APPLN. INFO.: DE 2002-10239134 20020827

OTHER SOURCE(S): MARPAT 138:108651
 AB The title acids are manufactured by (a) optionally converting 1-butene, cis-2-butene and/or trans-2-butene by metathesis and/or oligomerization into a mixture of C2-29 alkenes, (b) converting 1-butene, cis-2-butene and/or trans-2-butene (or mixture of C2-29 alkenes) by hydroformylation into C3-30 alkanals, and (c) converting C3-30 alkanals by oxidation into saturated aliphatic C3-30 carboxylic acids.

The hydroformylation step is carried out with CO/H in the presence of catalysts comprising group VIII-group 10 metal complexes with polyethyleneimine derivs. or P-containing compds. as chelating agents.

For example, metathesis reaction of butadiene-free C4 fraction containing

84.2 butenes in the presence of Re2O7/Al2O3 catalyst gave a mixture of C2-6 alkenes containing 19.4% 2-pentene and 10.3% 3-hexene, which were isolated by

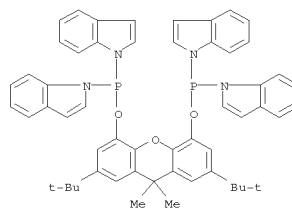
distillation Hydroformylation of 3-hexene in the presence of Rh(CO)2(acac) catalyst (acac = acetylacetonato) and polyethyleneimine lauric acid amide (preparation given) gave a mixture containing n-heptanal 22.8, 2-methylhexanal 41.3 and 2-ethylpentanal 31.6%. The conversion of 3-hexene was 99%. Oxidation of the latter mixture with air in the presence of

KOH gave a product containing 91% of a mixture of heptanoic acid, 2-methylhexanoic acid and 2-ethylpentanoic acid. The conversion of heptanals was 93%.

IT 472986-80-4 486999-34-2
 RL: CAT (Catalyst use); USES (Uses)
 (hydroformylation catalyst component; manufacture of saturated aliphatic C3-30 carboxylic acids from butenes)

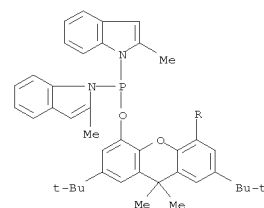
RN 472986-80-4 CAPLUS
 CN Phosphinous acid, di-1H-indol-1-yl-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

L8 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

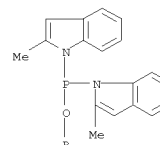


RN 486999-34-2 CAPLUS
 CN Phosphinous acid, bis(2-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

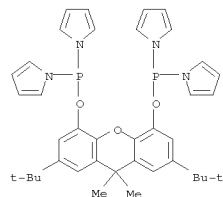
PAGE 1-A



PAGE 2-A



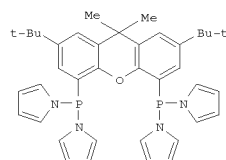
L8 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 IT 472986-77-9P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)
 (manufacture of saturated aliphatic C3-30 carboxylic acids from
 butenes)
 RN 472986-77-9 CAPLUS
 CN Phosphinous acid, di-1H-pyrrol-1-yl-, 2,7-bis(1,1-dimethylethyl)-9,9-
 dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:814151 CAPLUS
 DOCUMENT NUMBER: 137:311033
 TITLE: Ligands for pnictogen chelate complexes with a metal
 of subgroup VIII and use of the complexes as catalysts
 for hydroformylation, carbonylation,
 hydrocyanation or hydrogenation
 Ahlers, Wolfgang; Paciello, Rocco; Vogt, Dieter;
 Hofmann, Peter
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 85 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

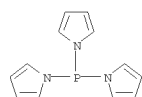
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083695	A1	20021024	WO 2002-EP3543	20020328
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SE, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2442039	A1	20021024	CA 2002-2442039	20020328
AU 2002308111	A1	20021028	AU 2002-308111	20020328
EP 1383777	A1	20040128	EP 2002-761895	20020328
EP 1383777	B1	20051116		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004531528	T	20041014	JP 2002-581450	20020328
AT 310007	T	20051215	AT 2002-761895	20020328
ES 2253552	T3	20060601	ES 2002-761895	20020328
CN 1863809	A	20061115	CN 2002-807591	20020328
US 20040110960	A1	20040610	US 2003-473216	20030929
US 7173138	B2	20070206		
PRIORITY APPLN. INFO.:			DE 2001-10115689	A 20010329
			DE 2001-10141494	A 20010824
			WO 2002-EP3543	W 20020328
OTHER SOURCE(S):		CASREACT 137:311033; MARPAT 137:311033		
GI				

L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



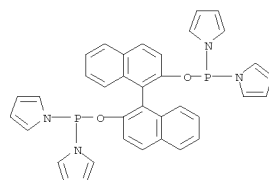
I

AB The invention relates to pnictogen chelate compds. that have two groups, which contain pnictogen atoms, and are bound to one another via a xanthene-like or triptycene-like mol. skeleton. At least one pyrrole group is covalently bound via its nitrogen atom to each pnictogen atom. The invention also relates to catalysts consisting of a complex of a metal from subgroup VIII with at least one pnictogen compound serving as a ligand, and to a method for hydroformylating olefins. Thus, phosphination of pyrrol with PCl3 in the presence of Et3N in THF gave chlorobis(pyrrolyl)phosphine which on treatment with lithiated 1,8-dibromo-3,6-di-tert-butylxanthene gave 13% title cocatalyst I. Rh(CO)2acac catalyzed hydroformylation of butene/butane (45% 1-butene, 40% 2-butene, 15% butane) mixture in the presence of ligand I with synthesis gas (CO:H2) gave 47% aldehyde with 96% linear selectivity.
 IT 60259-30-5 247130-62-7 472986-80-4
 472986-81-5 472986-86-0
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (ligands for pnictogen chelate complexes with subgroup VIII metal and use of complexes as catalysts for hydroformylation, carbonylation, hydrocyanation or hydrogenation)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidynetris- (CA INDEX NAME)

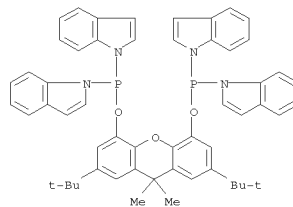


RN 247130-62-7 CAPLUS
 CN Phosphinous acid, P,P'-di-1H-pyrrol-1-yl-, P,P'-[1,1'-binaphthalene]-2,2'-diyl ester (CA INDEX NAME)

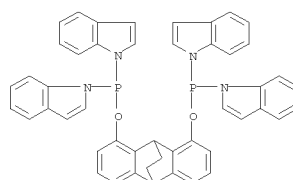
L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



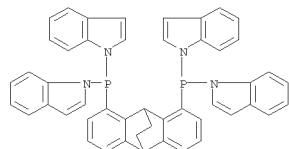
RN 472986-80-4 CAPLUS
 CN Phosphinous acid, di-1H-indol-1-yl-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



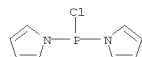
RN 472986-81-5 CAPLUS
 CN Phosphinic acid, di-1H-indol-1-yl-, 9,10-dihydro-9,10-ethanoanthracene-1,8-diyl ester (9CI) (CA INDEX NAME)



L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 RN 472986-86-0 CAPLUS
 CN 1H-Indole, 1,1',1'',1'''-[(9,10-dihydro-9,10-ethanoanthracene-1,8-diyl)diphosphinidene]tetrakis- (9CI) (CA INDEX NAME)



IT 365999-78-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction in preparation of ligand for rhodium catalyzed hydroformylation)
 RN 365999-78-6 CAPLUS
 CN Phosphinous chloride, P,P-di-1H-pyrrol-1-yl- (CA INDEX NAME)

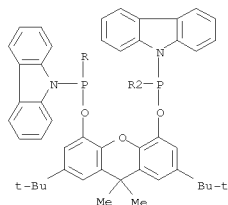


IT 472986-76-8P 472986-77-9P 472986-78-0P
 472986-79-1P 472986-82-6P 472986-83-7P
 472986-85-9P
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of ligands for pnictogen chelate complexes with subgroup VIII metal and use of complexes as catalysts for hydroformylation, carbonylation, hydrocyanation or hydrogenation)

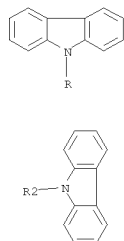
RN 472986-76-8 CAPLUS
 CN 1H-Pyrrole, 1,1',1'',1'''-[(2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl)diphosphinidene]tetrakis- (9CI) (CA INDEX NAME)

L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphinous acid, di-9H-carbazol-9-yl-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

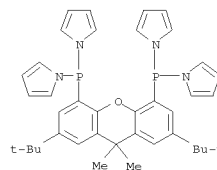


PAGE 2-A

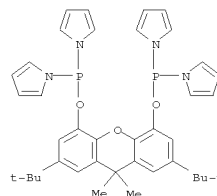


RN 472986-82-6 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

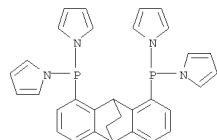
L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 472986-77-9 CAPLUS
 CN Phosphinous acid, di-1H-pyrrol-1-yl-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

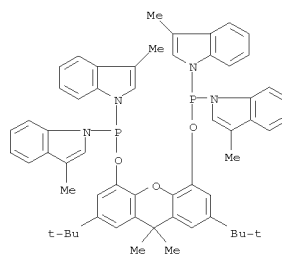


RN 472986-78-0 CAPLUS
 CN 1H-Pyrrole, 1,1',1'',1'''-[(9,10-dihydro-9,10-ethanoanthracene-1,8-diyl)diphosphinidene]tetrakis- (9CI) (CA INDEX NAME)

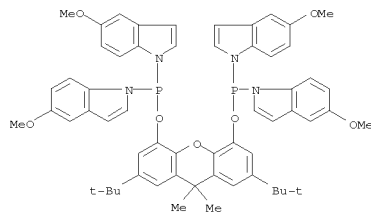


RN 472986-79-1 CAPLUS

L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

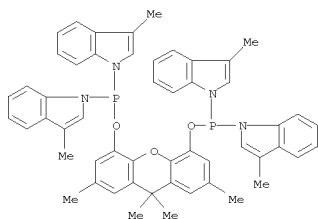


RN 472986-83-7 CAPLUS
 CN Phosphinous acid, bis(5-methoxy-1H-indol-1-yl)-, 2,7-bis(1,1-dimethylethyl)-9,9-dimethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)



RN 472986-85-9 CAPLUS
 CN Phosphinous acid, bis(3-methyl-1H-indol-1-yl)-, 2,7,9,9-tetramethyl-9H-xanthene-4,5-diyl ester (9CI) (CA INDEX NAME)

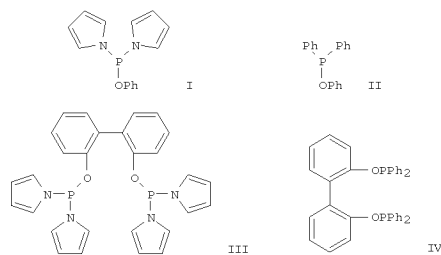
L8 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:627995 CAPLUS
DOCUMENT NUMBER: 137:319550
TITLE: Rhodium-Catalyzed Hydroformylation and Deuterioformylation with Pyrrolyl-Based Phosphorus Amidite Ligands: Influence of Electronic Ligand Properties
AUTHOR(S): van der Slot, Saskia C.; Duran, Josep; Luten, Jordy; Kamer, Paul C. J.; van Leeuwen, Piet W. N. M.
CORPORATE SOURCE: Institute of Molecular Chemistry, University of Amsterdam, Amsterdam, 1018 WV, Weth.
SOURCE: Organometallics (2002), 21(19), 3873-3883
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:319550
GI



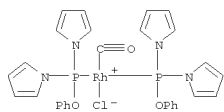
AB The influence of electronic ligand properties on the catalyst performance in the rhodium-catalyzed hydroformylation of alkenes was investigated. Two bidentate phosphorus amidite and phosphinite ligands were synthesized: 1,1'-biphenyl-2,2'-diyl-bis(dipyrrolylphosphoramidite) (III) and 1,1'-biphenyl-2,2'-diyl-bis(diphenylphosphinito) (IV). Their monodentate analogs also were studied: phenyldipyrrolylphosphoramidite (I) and Ph diphenylphosphinito (II). These two sets of ligands have very similar steric properties but the amidites are much stronger π -acceptor ligands. Spectroscopic studies showed that under hydroformylation reaction conditions the monodentate ligands I and II form mixts. of $\text{HRhL}_2(\text{CO})_2$ and $\text{HRhL}_3(\text{CO})$ complexes depending on the ligand and rhodium concns. and the carbon monoxide pressure. Depending on the reaction

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
conditions, the bidentate ligands III and IV form mixts. of $\text{HRh}(\text{L-L}')(\text{CO})_2$ and $\text{HRh}(\text{L-L}')(\text{CO})$, where L-L' functions as a monodentate. All ligands were tested in the hydroformylation reaction of oct-1-ene. A high π -acidity of the ligand resulted in a high rate of hydroformylation. The monodentate ligands I and II showed moderate selectivity for the linear aldehyde. The catalyst formed with the bidentate phosphorus amidite ligand III revealed high regioselectivity

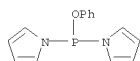
for the linear aldehyde (ratio l/b .simeq.100) at a high rate together with a moderate selectivity for isomerization (.apprx.7%). Deuterioformylation expts. of 1-hexene showed that the hydride (deuteride) migration is reversible in the hydroformylation system formed by III. Surprisingly, both the linear rhodium-alkyl and the branched rhodium-alkyl complex undergo β -hydride elimination. Also, the 2-hexylrhodium intermediate regenerates more often monodeuterated 1-hexene than 2-hexene. The rhodium hydride species formed this way reacts relatively slowly with the excess of D₂ and as a result large amts. of monodeuterated heptanal (40% D₁ vs. 60% D₂) and monodeuterated 1-hexene are formed. At higher conversions the latter gives trisdeuterated heptanal as well as bisdeuterated heptanal.

IT 471273-61-7P
RL: PREP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and IR spectra in relation to phosphorus ligand π -acidity as model for rhodium hydroformylation catalysts)

RN 471273-61-7 CAPLUS

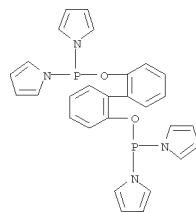
CN Rhodium, carbonylchlorobis[phenyl di-1H-pyrrol-1-ylphosphinite- κ P]-, (SP-4-3)- (9CI) (CA INDEX NAME)

IT 63623-68-7P 247130-61-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and complexation with rhodium to give hydroformylation catalysts)
RN 63623-68-7 CAPLUS
CN Phosphinous acid, di-1H-pyrrol-1-yl-, phenyl ester (9CI) (CA INDEX NAME)

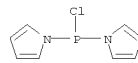


RN 247130-61-6 CAPLUS

CN Phosphinous acid, P,P-di-1H-pyrrol-1-yl-, P,P'-[1,1'-biphenyl]-2,2'-diyl

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
ester (CA INDEX NAME)

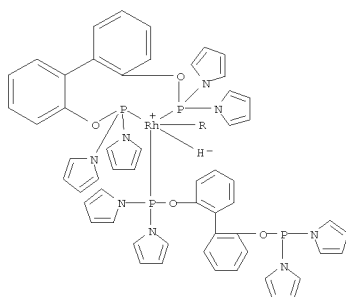
IT 365999-78-6P, Chlorodipyrrol-1-ylphosphine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reactant for preparation of dipyrrolylphosphorodiamidite ligands for rhodium hydroformylation catalysts)
RN 365999-78-6 CAPLUS
CN Phosphinous chloride, P,P-di-1H-pyrrol-1-yl- (CA INDEX NAME)



IT 471273-69-5P 471273-81-1P 471273-83-3P
471273-88-8P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (preparation of rhodium hydrido dipyrrolylphosphorodiamidite and diphenylphosphinite complexes and catalytic activity for regioselective hydroformylation of alkenes)
RN 471273-69-5 CAPLUS
CN Rhodium, [[1,1'-biphenyl]-2,2'-diyl bis(di-1H-pyrrol-1-ylphosphinite- κ P)]carbonyl[2'-[(di-1H-pyrrol-1-ylphosphino)oxy][1,1'-biphenyl]-2-yl di-1H-pyrrol-1-ylphosphinite- κ P]hydro-, (TB-5-34)- (9CI) (CA INDEX NAME)

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-A



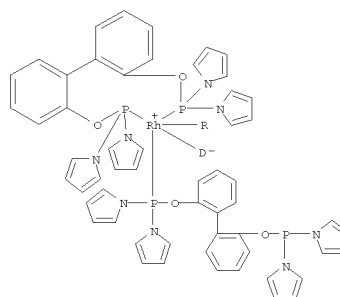
PAGE 2-A

RN 471273-81-1 CAPLUS

CN Rhodium, [[1,1'-biphenyl]-2,2'-diyl bis(di-1H-pyrrol-1-ylphosphinite-κP)]carbonyl[2'-[(di-1H-pyrrol-1-ylphosphino)oxy][1,1'-biphenyl]-2-yl di-1H-pyrrol-1-ylphosphinite-κP]hydro-d-, (TB-5-34)- (9CI) (CA INDEX NAME)

L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-A

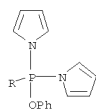
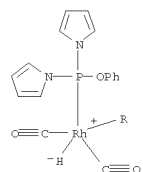


PAGE 2-A

RN 471273-83-3 CAPLUS

CN Rhodium, dicarbonylhydrobis[phenyl di-1H-pyrrol-1-ylphosphinite-κP]-, (TB-5-23)- (9CI) (CA INDEX NAME)

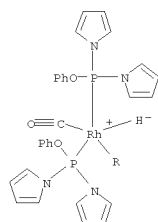
L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 471273-88-8 CAPLUS

CN Rhodium, carbonylhydrotris[phenyl di-1H-pyrrol-1-ylphosphinite-κP]-, (TB-5-23)- (9CI) (CA INDEX NAME)

PAGE 1-A



L8 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 2-A



REFERENCE COUNT:
THIS
FORMAT

54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR
RECORD. ALL CITATIONS AVAILABLE IN THE RE

L8 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:113848 CAPLUS
 DOCUMENT NUMBER: 136:167504
 TITLE: Preparation of thermally stable bidentate phosphorus ligands and their use in catalyst compositions for hydroformylation of olefins
 INVENTOR(S): Casanieu, Thierry; Riris, Jerome; Urata, Takao
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002047294	A	20020212	JP 2000-228821	20000725
PRIORITY APPLN. INFO.:			JP 2000-228821	20000725

OTHER SOURCE(S): CASREACT 136:167504; MAREPAT 136:167504
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Olefins are treated with CO and H in the presence of Group VIII metal compds. and Z1Z2POAr1Ar2OPE2Z3Z4 [Ar1Ar2 = Q1, Q2; R1-R3, R6-R8, R9-R13, R16-R20 = H, alkyl, alkoxy, aryl, cyano, OH, halo, etc.; R4, R5, R14, R15 = (cyclo)alkyl, (cyclo)alkoxy, (un)substituted silyl, etc.; Z1-Z4 = 5-membered (condensed) heterocycle containing N, which is bonded to the

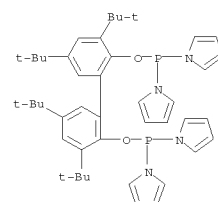
P of the ligands] to prepare aldehydes, which may be (dimerized and) hydrogenated to converted into alcos. Thus, 3,3',5,5'-tetra-tert-butyl-6,6'-dimethyl-2,2'-biphenol was refluxed with BuLi in THF and then added dropwise to a solution of di(1-pyrrolyl)chlorophosphine in MePh to give the corresponding adduct I in 19% yield. Propylene was then hydroformylated in the presence

of [Rh(cod)(OAc)]₂ and the ligand I at 70° and 4 kg/cm² to give 100.9:1 n:-iso-butyraldehyde in 94.8% yield. No decomposition of the ligand was observed

IT 397886-87-2
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of thermally stable bidentate phosphorus ligands for use in catalyst compns. for hydroformylation of olefins)

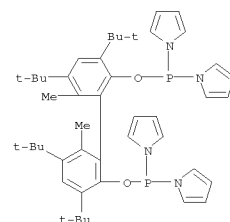
RN 397886-87-2 CAPLUS
 CN 1H-Pyrrole, 1,1',1'',1'''-[[3,3',5,5'-tetrakis(1,1-dimethylethyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxyphosphinidyne)]tetrakis- (9CI) (CA INDEX NAME)

L8 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



IT 397886-86-1P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of thermally stable bidentate phosphorus ligands for use in catalyst compns. for hydroformylation of olefins)

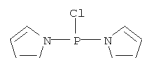
RN 397886-86-1 CAPLUS
 CN 1H-Pyrrole, 1,1',1'',1'''-[[3,3',5,5'-tetrakis(1,1-dimethylethyl)-6,6'-dimethyl[1,1'-biphenyl]-2,2'-diyl]bis(oxyphosphinidyne)]tetrakis- (9CI) (CA INDEX NAME)



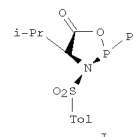
IT 365999-78-6P, Di-1-pyrrolylchlorophosphine
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of thermally stable bidentate phosphorus ligands for use in catalyst compns. for hydroformylation of olefins)

RN 365999-78-6 CAPLUS

L8 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphinous chloride, P,P-di-1H-pyrrol-1-yl- (CA INDEX NAME)

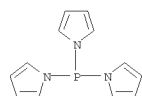


L8 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:899582 CAPLUS
 DOCUMENT NUMBER: 136:183886
 TITLE: Electron-Withdrawing Phosphine Compounds in Hydroformylation Reactions. 1. Syntheses and Reactions Using Mono- and Bis(p-toluenesulfonylamino) Phosphines
 AUTHOR(S): Magee, Matthew P.; Luo, Wei; Hersh, William H.
 CORPORATE SOURCE: Department of Chemistry and Biochemistry, The Center, Queens College, City University of New York, Flushing, NY, 11367-1597, USA
 SOURCE: Organometallics (2002), 21(2), 362-372
 CODEN: ORGN7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:183886
 GI



AB The rhodium-catalyzed hydroformylation of 1-hexene has been examined in the presence of members of a new class of electron-withdrawing phosphorus ligands, the N-sulfonylphosphoramides. All of the phosphorus compds. in this initial study contain one or two p-toluenesulfonylamino (TsN) groups attached to the phosphorus atom, including three compds. that have been described previously, TosL (1), a monophosphorus compound with two TsN groups, diTosL (2), a diphosphorus compound with one TsN group on each phosphorus atom, and I (3), a chiral acid-derived ligand with one TsN and one O-acetyl group on phosphorus. In addition, two new chelating analogs of 1 containing two- and four-carbon bridges between the phosphorus atoms [P,P'-1,2-ethanediyibis(1,3-di-p-toluenesulfonyl-1,3,2-diazaphospholidine) (5), P,P'-1,4-butanediylbis(1,3-di-p-toluenesulfonyl-1,3,2-diazaphospholidine) (7)], an analog of 1 with an Et instead of a Ph group on phosphorus (8), a nonchelating monophosphorus analog of 2 (10), and a monophosphorus adduct of the ditosylate of o-phenylenediamine (12) have been synthesized and used in hydroformylations, and comparison reactions with PPh₃ in THF, toluene, and CH₂Cl₂ have been run. The ¹³C NMR spectra

L8 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 of 5 and 7 and related diphosphorus compds. have been examd. for evidence of false AA'X spectra in which the chem. shifts of the nominally equiv. phosphorus atoms are split by the presence of a single ¹³C atom. The chelating compd. 2 is by far the most effective hydroformylation ligand, giving high turnover frequencies (TOF) and linear to branched (n:i) ratios of the aldehyde product. Reactions of 2 run at a 1000:10:1 ratio of 1-hexene:2:Rh(acac)(CO)₂ at 84 psi CO/H₂ at 60° in THF gave TOF = 440 mol aldehyde/mol Rh/h and an n:i ratio of 10, and at 80° gave TOF = 760 and an n:i ratio of 15.8. Reactions with 2 were also run in toluene, giving similar results, and in CH₂Cl₂, giving rise to higher n:i ratios (up to 28.5) but also to faster catalyst deactivation. In the absence of chelation, 10 gave lower turnover frequencies (TOF) and linear-to-branched ratios (n:i), and 1 and 3 also gave lower TOF values and low n:i ratios similar to those of PPh₃ and 10. The chelating analogs of 1, 5 and 7, were very poor ligands and gave n:i ratios characteristic of monophosphorus ligands. Compds. 8 and 12 inhibit all reaction.
 IT 60259-30-5
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalyst; electron-withdrawing phosphine compds. as cocatalysts in rhodium catalyzed hydroformylation reactions and synthesis and reactions using mono- and bis(toluenesulfonylamino) phosphines)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphindinydnetris- (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L8 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:790431 CAPLUS
 DOCUMENT NUMBER: 136:199931
 TITLE: Synthesis of pyrrolyl-, indolyl-, and carbazolyphosphanes and their catalytic application as ligands in the hydroformylation of 2-pentene
 AUTHOR(S): Jackstell, Ralf; Klein, Holger; Beller, Matthias; Wiese, Klaus-Diether; Rottger, Dirk
 CORPORATE SOURCE: Institut für Organische Katalyseforschung (IfOK) an der Universität Rostock e.V., Rostock, 18055, Germany
 SOURCE: European Journal of Organic Chemistry (2001), (20), 3871-3877
 CODEN: EJOCFK; ISSN: 1434-193X
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:199931

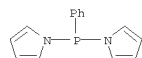
AB The synthesis of π -acceptor ligands of the type PAr_xR_{3-x} (x = 0-2; R = pyrrolyl, indolyl, carbazoly; Ar = aryl) and P(pyrrolyl)₂(carbazolyl) is described. Ligands included 1,1',1''-phosphindinydnetris[1H-pyrrole], 1,1',1''-phosphindinydnetris[1H-indole], 1,1',1''-phosphindinydnetris[9H-carbazole] and derivs. thereof. These ligands can be prepared in good to excellent yields by treatment of the corresponding free heterocyclic amines with phosphorus chlorides in the presence of base. The utilization of pyrrolyl-, indolyl-, and carbazolyphosphanes in the rhodium-catalyzed hydroformylation of 2-pentene demonstrates the influence of the ligand π -acidity on regioselectivity and activity in the hydroformylation of internal olefins. In general, increasing π -acidity of the ligand results in an increased yield of the linear oxo product. The best n:iso ratios of about 60:40 are obtained at low synthesis gas pressure (10 bar) in the presence of the P(pyrrolyl)₃ ligand.
 IT 22859-58-1P 54005-98-0P 54006-05-2P
 60259-30-5P 179611-77-9P 192935-58-3P
 286014-26-4P 358640-82-1P 401471-40-7P
 401471-41-8P 401471-42-9P 401471-43-0P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of pyrrolyl-, indolyl-, and carbazolyphosphanes and their use as ligands in hydroformylation of 2-pentene)
 RN 22859-58-1 CAPLUS
 CN 1H-Indole, 1-(diphenylphosphino)- (CA INDEX NAME)



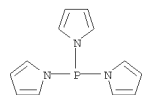
L8 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 RN 54005-98-0 CAPLUS
 CN 1H-Pyrrole, 1-(diphenylphosphino)- (CA INDEX NAME)



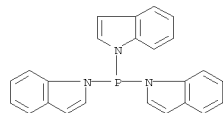
RN 54006-05-2 CAPLUS
 CN 1H-Pyrrole, 1,1'-(phenylphosphinidene)bis- (CA INDEX NAME)



RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphindinydnetris- (CA INDEX NAME)

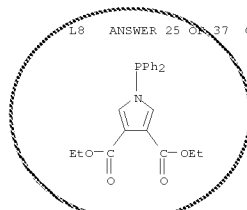


RN 179611-77-9 CAPLUS
 CN 1H-Indole, 1,1',1''-phosphindinydnetris- (CA INDEX NAME)

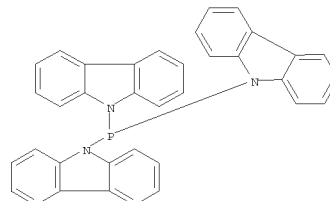


RN 192935-58-3 CAPLUS
 CN 1H-Pyrrole-3,4-dicarboxylic acid, 1-(diphenylphosphino)-, diethyl ester (9CI) (CA INDEX NAME)

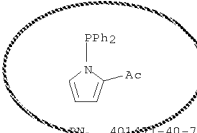
L8 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



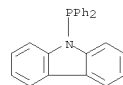
RN 358640-82-1 CAPLUS
 CN 9H-Carbazole, 9,9',9''-phosphindinydnetris- (9CI) (CA INDEX NAME)



RN 358640-82-1 CAPLUS
 CN 1H-Pyrrole, 2-acetyl-1-(diphenylphosphino)- (9CI) (CA INDEX NAME)

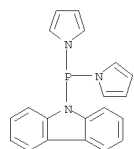


RN 401471-40-7 CAPLUS
 CN 9H-Carbazole, 9-(diphenylphosphino)- (CA INDEX NAME)



RN 401471-41-8 CAPLUS
 CN 9H-Carbazole, 9-(di-1H-pyrrol-1-ylphosphino)- (CA INDEX NAME)

L8 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

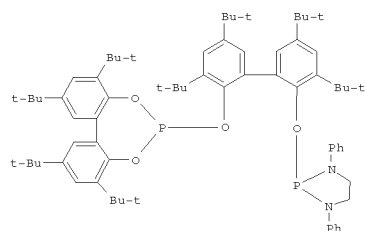
ClP1C=CC=C1N2C=CC=C2Cc1cc(C(F)(F)F)ccc1P2C=CC=CN2

L8 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L8 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:97072 CAPLUS
 DOCUMENT NUMBER: 134:116071
 TITLE: Preparation and application of organo-phosphine
 compounds in catalyst system
 INVENTOR(S): Guo, Haoran; Wang, Yunling; Jia, Dongli; Wang,
 Hongsheng; Liu, Wu; Liang, Xin
 PATENT ASSIGNEE(S): Beijing Chemical Inst., Ministry of Chemical
 Industry,
 Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 22 pp.
 CODEN: CNXKEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

IT in hydroformylation of 1-octene.
321181-49-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREF (Preparation);
USES (Uses)
(preparation and application of organophosphine compds. in catalyst

OTHER SOURCE(S): CASREACT 134:116071; MARPAT 134:116071
GI

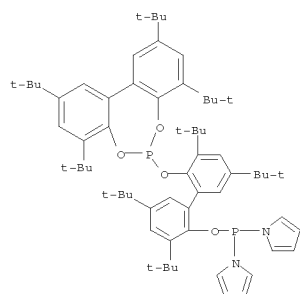


```

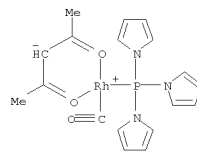
system)
RN      321181-49-1  CAPLUS
CN      Phosphinous acid, di-1H-pyrrol-1-yl-, 3,3',5,5'-tetrakis(1,1-
dimethylethyl)-2'-[2,4,8,10-tetrakis(1,1-dimethylethyl)dibenzo[d,f][1,3,2
]dioxaphosphepin-6-yl]oxy][1,1'-biphenyl]-2-yl ester (9CI) (CA INDEX
NAME)

```

L8 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

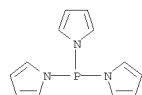


L8 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2000:374051 CAPLUS
 DOCUMENT NUMBER: 133:9593
 TITLE: The new organometallic rhodium-iron homogeneous catalytic system for hydroformylation
 AUTHOR(S): Trzeciak, Anna M.; Mieczynska, Ewa; Ziolkowski, Jozef J.
 CORPORATE SOURCE: Faculty of Chemistry, University of Wroclaw, Wroclaw, 50-383, Pol.
 SOURCE: Topics in Catalysis (2000), 11/12(1-4), 461-468
 CODEN: TOCAFI; ISSN: 1022-5528
 PUBLISHER: Baltzer Science Publishers
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The addition of Fe(CO)5 to the systems with [Rh(acac)(CO)L] complexes (L = PPh3, P(OPh)3, P(NC4H4)3) as catalyst precursors caused the increase of aldehydes yield in 1-hexene hydroformylation reaction (80°C, 10 atm) up to 71%. The IR and 1H NMR measurements confirm the formation of an unstable bimetallic intermediate, [(H)(PPh3)3Rh(μ-CO)2Fe(CO)4], characterized with νCO at 1749 cm⁻¹ and hydrido signal at δ -15.8 ppm.
 IT 193418-87-0
 RL: CAT (Catalyst use); PRP (Properties); USES (Uses) (organometallic rhodium-iron homogeneous catalytic system for hydroformylation)
 RN 193418-87-0 CAPLUS
 CN Rhodium, carbonyl(2,4-pentanedionato-κO,κO') [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SF-4-2)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

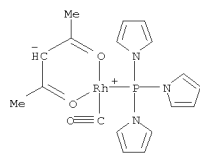
L8 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:297577 CAPLUS
 DOCUMENT NUMBER: 131:116292
 TITLE: Probing new classes of π-acceptor ligands for rhodium catalyzed hydroformylation of styrene
 AUTHOR(S): Breit, Bernhard
 CORPORATE SOURCE: Fachbereich Chemie, Philipps-Universität Marburg, Marburg, D-35043, Germany
 SOURCE: Journal of Molecular Catalysis A: Chemical (1999), 143(1-3), 143-154
 CODEN: JMCCF2; ISSN: 1381-1169
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 131:116292
 AB Three hitherto unexplored classes of strong π-acceptor ligands for use in homogeneous catalysis: phospho-π-aromatic compds. (class A), pyrrolyl phosphines (class B) and phosphonium cations (class C) were evaluated for Rh catalyzed hydroformylation of styrene. When testing monodentate ligands, the ortho/ortho'-disubstituted phosphabenzene derivative 1b provided a Rh-catalyst endowed with the highest catalytic activity. Based upon these results a 1st series of bidentate phosphabenzene ligands were tailored employing the concept of an electronic differentiation of the two binding sites. An oxazoline/phosphabenzene system 8 which is capable of forming an eight-membered chelation ring gave the best results.
 Thus, a quant. conversion of styrene at ambient temperature afforded the desired 2-phenylpropanal in high regioselectivity (25:1).
 IT 60259-30-5
 RL: CAT (Catalyst use); USES (Uses) (regioselectivity rhodium-catalyzed hydroformylation of styrene in the presence of)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidynetris- (CA INDEX NAME)



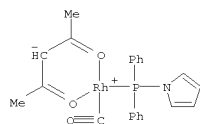
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L8 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:186305 CAPLUS
 DOCUMENT NUMBER: 130:275708
 TITLE: Novel rhodium(I) complexes with (2-hydroxyphenyl)diphenylphosphine ligand: catalytic properties and x-ray structures of Rh(OC6H4PPh2)(CO)(PPh3) and Rh(OC6H4PPh2)(P(OPh)3)2·0.5C6H6
 AUTHOR(S): Trzeciak, Anna M.; Ziolkowski, Jozef J.; Lis, Tadeusz;
 CORPORATE SOURCE: Choukroun, Robert
 Faculty of Chemistry, University of Wroclaw, Wroclaw, 50-383, Pol.
 SOURCE: Journal of Organometallic Chemistry (1999), 575(1), 87-97
 CODEN: JORCAL; ISSN: 0022-328X
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The novel rhodium complexes with the bidentate PO ligand (PO = OC6H4PPh2-) Rh(PO)(CO)L (La = POH = HOC6H4PPh2 (1), PPh3 (2), P(NC4H4)3 (4), PPh2(NC4H4) (6)) and Rh(PO)L2 (Lb = P(OPh)3 (3), P(NC4H4)3 (5)) were obtained by ligand exchange in Rh(β-diketone)(CO)2, Rh(β-diketone)(CO)L and Rh(β-diketone)L2 complexes. All complexes of the Rh(PO)(CO)La type exist in solution as isomers with both phosphorus atoms in the trans position as was shown by 31P{1H}-NMR. 2
 And 3 were characterized by x-ray crystallog. (2: monoclinic, space group P21/n, R1 = 0.0322; 3: 1/2C6H6: triclinic, space group P.hivin.1, R1 = 0.0334). The trans influence of the phosphorus atom of a bidentate PO ligand is stronger than that of oxygen atom, which is manifested by the differences of Rh-P bonds in 2 (2.283(1) and 2.327(1) Å) and of Rh-P (phosphite) bonds in 3 (2.233(2) and 2.139(2) Å). 1 And 2 used alone or with an excess of free phosphine (POH, PPh3, P(NC4H4)3) are not active in hex-1-ene hydroformylation at 1 MPa CO/H2 = 1 and at 353 K. The lack of catalytic activity is explained by the extremely high stability of the chelate (PO) ring which does not give the active form of the catalyst. In contrast, 3 used alone as the catalyst precursor produces 54 and 72.9% of aldehydes when used with a 6-fold excess of P(OPh)3. 1 Modified with P(OPh)3 catalyzes hex-1-ene hydroformylation with a 73.6-84.6% yield of aldehydes. Under hydroformylation reaction conditions, the PO ligand is removed from the coordination sphere of 1 and complexes HRh(CO)P(OPh)3]3 and HRh[P(OPh)3]4 are formed.
 IT 193418-87-0 193418-90-5 193418-91-6
 RL: RCT (Reactant); RACT (Reactant or reagent) (for preparation of rhodium (diphenylphosphino)phenolato phosphine complex)
 RN 193418-87-0 CAPLUS
 CN Rhodium, carbonyl(2,4-pentanedionato-κO,κO') [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SF-4-2)- (9CI) (CA INDEX NAME)

L8 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

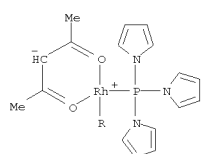


RN 193418-90-5 CAPLUS
 CN Rhodium, carbonyl[1-(diphenylphosphino-κP)-1H-pyrrole](2,4-pentanedionato-κO,κO')-, (SP-4-2)- (9CI) (CA INDEX NAME)

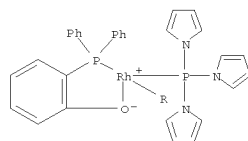


RN 193418-91-6 CAPLUS
 CN Rhodium, (2,4-pentanedionato-κO,κO')bis[1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

L8 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



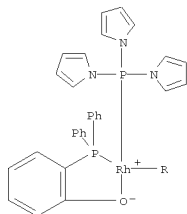
IT 222296-64-2P 222296-65-3P 222296-67-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 222296-64-2 CAPLUS
 CN Rhodium, carbonyl[2-(diphenylphosphino-κP)phenolato-κO][1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)



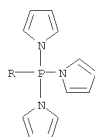
RN 222296-65-3 CAPLUS
 CN Rhodium, [2-(diphenylphosphino-κP)phenolato-κO]bis[1,1',1''-(phosphinidyne)tris[1H-pyrrole]]-, (SP-4-3)- (9CI) (CA INDEX NAME)

L8 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

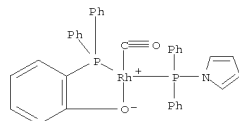
PAGE 1-A



PAGE 2-A



RN 222296-67-5 CAPLUS
 CN Rhodium, carbonyl[2-(diphenylphosphino-κP)phenolato-κO][1-(diphenylphosphino-κP)-1H-pyrrole]-, (SP-4-2)- (CA INDEX NAME)

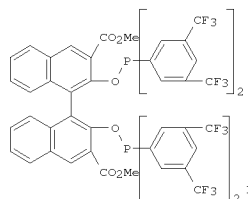


REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L8 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:62262 CAPLUS
 DOCUMENT NUMBER: 128:127605
 TITLE: Process to prepare a linear aldehyde by hydroformylation using a bidentate phosphorus ligand
 INVENTOR(S): Breikss, Anne Irisa; Burke, Patrick M.; Garner, James Michael; Tam, Wilson
 PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA; DSM N.V.
 SOURCE: U.S., 9 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

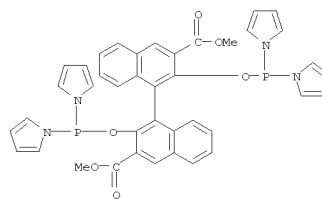
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5710344	A	19980120	US 1996-745238	19961108
WO 9819985	A1	19980514	WO 1997-US19902	19971103
W: CN, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				
SE				
EP 937022	A1	19990825	EP 1997-946449	19971103
EP 937022	B1	20010725		
R: DE, FR, NL				
CN 1236353	A	19991124	CN 1997-199540	19971103
JP 2001503426	T	20010313	JP 1998-521631	19971103
PRIORITY APPLN. INFO.:			US 1996-745238	A 19961108
			WO 1997-US19902	W 19971103
OTHER SOURCE(S):			CASREACT 128:127605; MARPAT 128:127605	
GI				



AB The invention relates to a process for the preparation of linear aldehydes by hydroformylation of ethylenically unsatd. organic compds. with carbon monoxide and hydrogen in the presence of a catalyst system comprising a

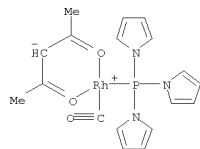
L8 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 Group VIII metal and a bidentate org. ligand. The bidentate org. ligand is characterized in that it has two trivalent phosphorus atoms each contg.
 at least one P-C or one P-N bond and represented by formula R3R4P-Q-PR3R4 (R3, R4 = aryl or nitrogen contg. heterocycle groups, where the nitrogen is bound to the phosphorus). This invention provides a process for the prepn. of linear aldehydes with high catalyst performance (selectivity and/or activity) which achieves a combination of high selectivity towards linear aldehydes and relatively high catalyst activity. The advantages of this novel process are even more pronounced when starting from internally unsatd. org. compds., whereas prepg. linear aldehydes from internally unsatd. compds. using previously known hydroformylation processes generally resulted in lower selectivity to linear aldehydes, increased hydrogenation of the olefinic double bond and/or lower catalytic activity. An addnl. advantage of the present process is that the linear selectivity is high, wherein linear selectivity, "linearity", is defined as the mole ratio of the linear aldehydes compared to the total aldehyde product from the hydroformylation reaction. Thus, A 25 mL glass lined pressure vessel was charged with 5 mL of a soln. contg. 100 mmol Me 3-pentenoate, 0.2 mmol dicarbonyl(2,2,6,6-tetramethyl-3,5-heptanedionato)rhodium, 1.0 mmol of ligand (I) (prepn. given) and 1.00 g of tetradecane (internal GC std.) in 100 mL toluene (the molar ratio of ligand to rhodium being 5). The pressure vessel was freed from air by purging first with nitrogen (twice) and then with 1:1 CO/H2 (twice) and was pressurized to 75 psi CO and heated to 100° C. with agitation for 2 h to give a product contg. Me 5-formylvalerate which was analyzed by GC. Me 3-pentenoate conversion [% Me 3-pentenoate and Me 4-pentenoate reacted] was 40.0%; linearity [100+methyl 5-formylvalerate (M5FV)/(Me 5-formylvalerate+branched formylvalerates)] was 97%; and selectivity (100+M5FV/All products): 64%.
 IT 202124-56-9P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (process to prepare a linear aldehyde by hydroformylation of ethylene-containing unsatd. organic compds. using a bidentate phosphorus ligand)
 RN 202124-56-9 CAPLUS
 CN [1,1'-Binaphthalene]-3,3'-dicarboxylic acid, 2,2'-bis[(di-1H-pyrrol-1-ylphosphino)oxy]-, dimethyl ester (9CI) (CA INDEX NAME)

L8 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



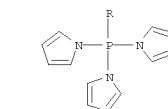
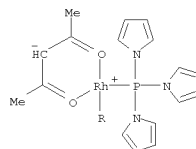
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1997:419524 CAPLUS
 DOCUMENT NUMBER: 127:153447
 TITLE: Novel rhodium complexes with N-pyrrolylphosphines: attractive precursors of hydroformylation catalysts
 AUTHOR(S): Trzeciak, Anna M.; Glowiak, Tadeusz; Grzybek, Ryszard;
 CORPORATE SOURCE: Ziolkowski, Jozef J.
 Faculty of Chemistry, University of Wroclaw, Wroclaw, 50-383, Pol.
 SOURCE: Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1997), (11), 1831-1837
 CODEN: JCDTBI; ISSN: 0300-9246
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New rhodium(I) complexes with N-pyrrolylphosphine ligands of formula [Rh(acac)(CO)(P(NC4H4)3)] 1a, [Rh(acac)(CO)(PPh(NC4H4)2)] 1b, [Rh(acac)(CO)(PPh2(NC4H4))] 1c, [Rh(acac)(P(NC4H4)3)2] 2a, [Rh(acac)(PPh(NC4H4)2)2] 2b [Rh(acac)(PPh2(NC4H4)2)] 2c (acac = acetylacetonate) have been found to be precursors of very active and selective hydroformylation catalysts as [RhH(CO)(P(NC4H4)3)3] 3a, [RhH(CO)(PPh(NC4H4)2)3] 3b and [RhH(CO)(PPh2(NC4H4))3] 3c resp., which at 60°C and 10 atm H2-CO produce 80-90% of aldehydes with niiso 3-31:1.
 IT 193418-87-0 193418-91-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crystal structure; rhodium complexes with N-pyrrolylphosphines as precursors of hydroformylation catalysts)
 RN 193418-87-0 CAPLUS
 CN Rhodium, carbonyl(2,4-pentanedionato-κO,κO')bis[1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

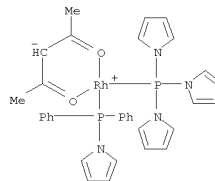


RN 193418-91-6 CAPLUS
 CN Rhodium, (2,4-pentanedionato-κO,κO')bis[1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA INDEX NAME)

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

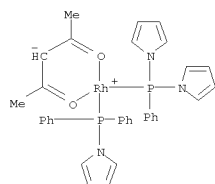


IT 193418-98-3 193418-99-4
 RL: PRP (Properties)
 (phosphorus-31 NMR of; rhodium complexes with N-pyrrolylphosphines as precursors of hydroformylation catalysts)
 RN 193418-98-3 CAPLUS
 CN Rhodium, [1-(diphenylphosphino-κP)-1H-pyrrole](2,4-pentanedionato-κO,κO') [1,1',1''-(phosphinidyne-κP)tris[1H-pyrrole]]-, (SP-4-3)- (9CI) (CA INDEX NAME)

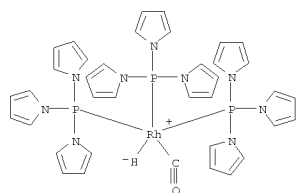


RN 193418-99-4 CAPLUS
 CN Rhodium, [1-(diphenylphosphino-κP)-1H-pyrrole](2,4-pentanedionato-κO,κO') [1,1',1''-(phenylphosphinidene-κP)bis[1H-pyrrole]]-, (SP-4-3)- (9CI) (CA INDEX NAME)

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



IT 193418-95-0P 193418-96-1P 193418-97-2P
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)
 (rhodium complexes with N-pyrrolylphosphines as precursors of
 hydroformylation catalysts)
 RN 193418-95-0 CAPLUS
 CN Rhodium, carbonylhydrottris[1,1',1''-(phosphinidyne-κP)tris[1H-
 pyrrole]]-, (TB-5-23)- (9CI) (CA INDEX NAME)

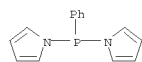


RN 193418-96-1 CAPLUS
 CN Rhodium, carbonylhydrottris[1,1'-(phenylphosphinidene-κP)bis[1H-
 pyrrole]]- (9CI) (CA INDEX NAME)

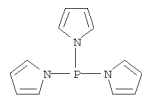
L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



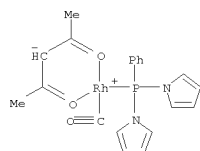
RN 54006-05-2 CAPLUS
 CN 1H-Pyrrole, 1,1'-(phenylphosphinidene)bis- (CA INDEX NAME)



RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidynetris- (CA INDEX NAME)

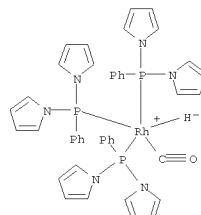


RN 193418-89-2 CAPLUS
 CN Rhodium, carbonyl(2,4-pentanedionato-κO,κO')[1,1'-(
 phenylphosphinidene-κP)bis[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA
 INDEX NAME)

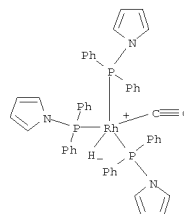


RN 193418-90-5 CAPLUS
 CN Rhodium, carbonyl[1-(diphenylphosphino-κP)-1H-pyrrole](2,4-
 pentanedionato-κO,κO')-, (SP-4-2)- (9CI) (CA INDEX NAME)

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

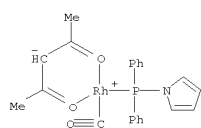


RN 193418-97-2 CAPLUS
 CN Rhodium, carbonyltris[1-(diphenylphosphino-κP)-1H-pyrrole]hydro-
 (CA INDEX NAME)

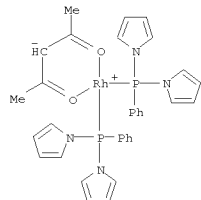


IT 54005-98-0 54006-05-2 60259-30-5
 193418-89-2 193418-90-5 193418-93-8
 193418-94-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (rhodium complexes with N-pyrrolylphosphines as precursors of
 hydroformylation catalysts)
 RN 54005-98-0 CAPLUS
 CN 1H-Pyrrole, 1-(diphenylphosphino)- (CA INDEX NAME)

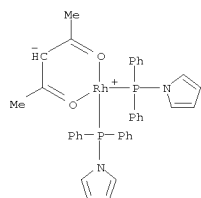
L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 193418-93-8 CAPLUS
 CN Rhodium, (2,4-pentanedionato-κO,κO')bis[1,1'-(
 phenylphosphinidene-κP)bis[1H-pyrrole]]-, (SP-4-2)- (9CI) (CA
 INDEX NAME)



RN 193418-94-9 CAPLUS
 CN Rhodium, bis[1-(diphenylphosphino-κP)-1H-pyrrole](2,4-pentanedionato-
 κO,κO')-, (SP-4-2)- (9CI) (CA INDEX NAME)

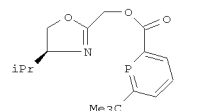


REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR
 THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE

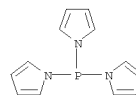
FORMAT

L8 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

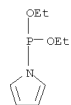
L8 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1996:588220 CAPLUS
 DOCUMENT NUMBER: 125:275334
 ORIGINAL REFERENCE NO.: 125:51485a,51488a
 TITLE: Highly regioselective hydroformylation under mild conditions with new classes of π -acceptor ligands
 AUTHOR(S): Breit, Bernhard
 CORPORATE SOURCE: Fachbereich Chemie, Philipps-Univ. Marburg, Marburg, D-35043, Germany
 SOURCE: Chemical Communications (Cambridge) (1996), (17), 2071-2072
 CODEN: CHCOFS; ISSN: 1359-7345
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 125:275334
 GI



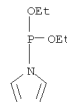
AB The first use of three new classes of π -acceptor ligands, e.g. 4-cyclohexylphosphabenzene, I, in homogeneous catalysis is reported; the corresponding rhodium catalysts combine high regioselectivity with high reactivity on hydroformylation of styrene.
 IT 60259-30-5
 RL: CAT (Catalyst use); USES (Uses)
 (use of π -acceptor ligands for regioselective rhodium-catalyzed hydroformylation of styrene)
 RN 60259-30-5 CAPLUS
 CN 1H-Pyrrole, 1,1',1''-phosphinidynetrin- (CA INDEX NAME)



L8 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1989:534322 CAPLUS
 DOCUMENT NUMBER: 111:134322
 ORIGINAL REFERENCE NO.: 111:22495a,22498a
 TITLE: The reaction of tetrazole with phosphoramidites as a model for the nucleotide coupling step
 AUTHOR(S): Berner, S.; Muehleger, K.; Seliger, H.
 CORPORATE SOURCE: Sekt. Polym., Univ. Ulm, Ulm, D-7900, Fed. Rep. Ger.
 SOURCE: Nucleosides & Nucleotides (1988), 7(5-6), 763-7
 CODEN: NUNUD5; ISSN: 0732-8311
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 111:134322
 AB The reaction of (EtO)2P(CHMe2)2 with tetrazole gave 52% 1-tetrazolyldiethoxyphosphine.
 IT 54006-06-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and properties of)
 RN 54006-06-3 CAPLUS
 CN Phosphonous acid, 1H-pyrrol-1-yl-, diethyl ester (9CI) (CA INDEX NAME)



L8 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1989:458262 CAPLUS
 DOCUMENT NUMBER: 111:58262
 ORIGINAL REFERENCE NO.: 111:9903a,9906a
 TITLE: Studies on the role of tetrazole in the activation of phosphoramidites
 AUTHOR(S): Berner, S.; Muehleger, K.; Seliger, H.
 CORPORATE SOURCE: Sekt. Polym., Univ. Ulm, Ulm, D-7900, Fed. Rep. Ger.
 SOURCE: Nucleic Acids Research (1989), 17(3), 853-64
 CODEN: NARHAD; ISSN: 0305-1048
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The mechanism of the tetrazole-activated coupling step in the synthesis of oligonucleotides via phosphoramidites is studied with the help of model reactions; treatment of diethoxydiisopropylaminophosphine with two equivalent of tetrazole resulted in a diethoxytetrazolophosphine, whose 31P-NMR shift of 126 ppm is identical with the signal observed during internucleotide bond formation. A series of different related diethoxyphosphorous acid derivs. were also synthesized; their 31P-NMR signals between 123.9 and 130.8 ppm are addnl. evidence for the intermediacy of a tetrazolide species. Further NMR investigations with more basic azoles showed that tetrazole is also active as a proton donor.
 IT 54006-06-3P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 54006-06-3 CAPLUS
 CN Phosphonous acid, 1H-pyrrol-1-yl-, diethyl ester (9CI) (CA INDEX NAME)



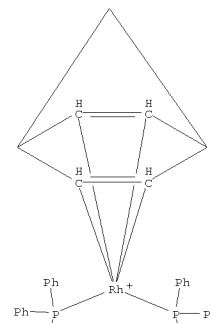
L8 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1986:149172 CAPLUS
 DOCUMENT NUMBER: 104:149172
 ORIGINAL REFERENCE NO.: 104:23625a,23628a
 TITLE: Chiral phosphorus-containing ligands from natural amino acids and their use in catalysts for enantioselective synthesis
 INVENTOR(S): Petit, Michele; Mortreux, Andre; Petit, Francis; Buono, Gerard; Peiffer, Gerard
 PATENT ASSIGNEE(S): Societe Chimique des Charbonnages S. A., Fr.
 SOURCE: Fr. Demande, 21 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2550201	A1	19850208	FR 1983-12953	19830805
FR 2550201	B1	19860228		
EP 136210	A1	19850403	EP 1984-401621	19840803
EP 136210	B1	19890816		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 45581	T	19890915	AT 1984-401621	19840803
JP 60089492	A	19850520	JP 1984-164737	19840806
JP 05004395	B	19930119		
CA 1244451	A1	19881108	CA 1984-460551	19840808
US 4877908	A	19891031	US 1987-107919	19871013
US 5099077	A	19920324	US 1989-398539	19891011
JP 05092983	A	19930416	JP 1991-339712	19911128
US 5210202	A	19930511	US 1991-811673	19911223
JP 06092981	A	19940405	JP 1992-257477	19920901
PRIORITY APPLN. INFO.:			FR 1983-12953	A 19830805
			EP 1984-401621	A 19840803
			US 1984-638268	A2 19840806
			US 1985-698412	A1 19850205
			US 1987-107919	A3 19871013
			US 1989-398539	A3 19891011

OTHER SOURCE(S): MARPAT 104:149172
 AB Chiral P ligands R1R2NCR3R4CR5R6OPPh2 [I; R1, R2 = H, hydrocarbon, PPh2; R2, R3 = H, hydrocarbon (un)substituted by PPh2, alc., thiol, thioether, amine, imine, acid derivative, R2 ≠ R3; R5, R6 = H, hydrocarbon] were prepared. Thus, (+)-ephedrine reacted with 2 equivalent ClPPh2 to give (1S,2R)-Ph2PNMeCHMeCHOPPh2 (II) of 95% optical purity. II reacted with Rh2Cl2(CO)4 to give RhCl(CO)(L) (III; L = II). III catalyzed asym. hydroformylation, with 45% conversion of PhCH=CH2 to product containing 93% PhCHMeCHO (IV) and 7% PhCH2CH2CHO; S-IV was formed with 25%

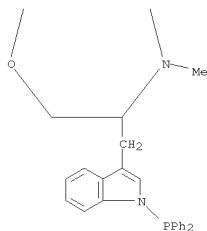
L8 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 optical yield.
 IT 101299-72-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and catalyst activity of, for asym. hydrogenation)
 RN 101299-72-3 CAPLUS
 CN Rhodium(1+), [(2,3,5,6-η)-bicyclo[2.2.1]hepta-2,5-diene][3-[1-(diphenylphosphino)-1H-indol-3-yl]-2-[(diphenylphosphino)methylamino]propyl 1 diphenylphosphinite]-, stereoisomer, perchlorate (9CI) (CA INDEX NAME)
 CM 1
 CRN 101299-71-2
 CMF C55 H51 N2 O P3 Rh
 CCI CCS

PAGE 1-A



L8 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 2-A

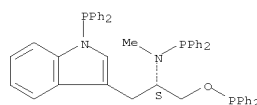


CM 2
 CRN 14797-73-0
 CMF Cl O4



IT 101339-62-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, for use in metal-containing asym. catalyst)
 RN 101339-62-2 CAPLUS
 CN Phosphinous acid, diphenyl-, 3-[1-(diphenylphosphino)-1H-indol-3-yl]-2-[(diphenylphosphino)methylamino]propyl ester, (S)- (9CI) (CA INDEX NAME)

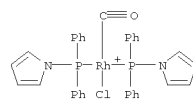
Absolute stereochemistry.



L8 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1981:138913 CAPLUS
 DOCUMENT NUMBER: 94:138913
 ORIGINAL REFERENCE NO.: 94:22737a,22740a
 TITLE: Improvement in selectivity to normal product during hydroformylation of hex-1-ene through electronic transfers in carbonylchlororhodium (P42NR1R2)2 complexes
 AUTHOR(S): Grimblot, J.; Bonnelle, J. P.; Vaccher, C.; Mortreux, A.; Petit, F.; Peiffer, G.
 CORPORATE SOURCE: ENSCL, Univ. Sci. Tech. Lille, Villeneuve d'Ascq, 59650, Fr.
 SOURCE: Journal of Molecular Catalysis (1980), 9(4), 357-68
 CODEN: JMCADS; ISSN: 0304-5102
 LANGUAGE: English
 AB The selectivity for normal aldehyde formation was examined in the title reaction with RhClCO(PPh2NRR1)2 (R, R1 = alkyl, aryl) catalysts. X-ray photoelectron and IR spectral data showed that the electron distribution between N, P, and Ph atoms and in the CO group depends on the alkyl or aryl nature of the substituents. In particular, an increasing π-acceptor ability of the aminophosphine ligand is obtained when R and R1 are aryl, owing to delocalization of the N lone pair. Under such conditions, highly selective catalysts are obtained.
 IT 54005-98-0
 RL: PREP (Properties)
 (binding energy of)
 RN 54005-98-0 CAPLUS
 CN 1H-Pyrrole, 1-(diphenylphosphino)- (CA INDEX NAME)

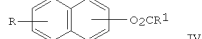
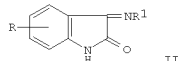
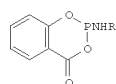
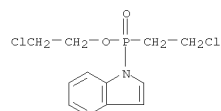


IT 76933-25-0
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for hydroformylation of hexene, selectivity with)
 RN 76933-25-0 CAPLUS
 CN Rhodium, carbonylchlorobis[1-(diphenylphosphino)-1H-pyrrole-P]- (9CI) (CA INDEX NAME)



L8 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1977:16610 CAPLUS
 DOCUMENT NUMBER: 86:16610
 ORIGINAL REFERENCE NO.: 86:2705a,2708a
 TITLE: Some results of studies on the synthesis of and
 search for new chemical preparations to control cotton plant
 diseases
 AUTHOR(S): Maksudov, N. Kh.
 CORPORATE SOURCE: Mashk. Inst. Inzh. Irrig. Mekh. Sel'sk. Khoz.,
 Tashkent, USSR
 SOURCE: Uzbekskii Khimicheskii Zhurnal (1976), (3), 39-53
 CODEN: UZKZAC
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI

L8 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 CN Phosphinic acid, (2-chloroethyl)-1H-indol-1-yl-, 2-chloroethyl ester
 (9CI) (CA INDEX NAME)



AB RP(O)(CH2CH2Cl)OCH2CH2Cl (R = substituted anilino, benzotriazolyl, benzimidazolyl, piperidyl, phthalimido, indolyl), I (R = Ph, p-tolyl, p-EtO2CC6H4, o-O2NC6H4, o-MeOC6H4), RC6H4NR2CH2CH(OH)R1 (R = H, o-, m-, p-Me, o-, m-, p-MeO, o-, m-, p-Cl, m-CF3, R1 = H, Me, MeOCH2, R2 = COCHCl2, substituted phenylcarbamoyl, acetyl, PhSO2), II (R = H, Me, Br, R1 = 3,4-Cl2C6H3, 3-F3CC6H4, 4-ClC6H4, 4-MeOC6H4, 3-O2NC6H4), RNHCOCH:CHCO2H (R = substituted phenyl, 2-thiazolyl, 2-pyridyl), III (R = substituted phenyl), IV (R = H, NO2, Br, R1 = alkenyl, 2-furylvinyl, vinyl, 1-propenyl, chloromethyl, isopropenyl), Br2NCS2R (R = alkenyl, alkyl, Ph, phenylcarbamoylmethyl), and RN:NR1 (R = 2,6-diamino-3-pyridyl, 2,4-diaminophenyl, histidyl, R1 = pyridyl, quinolyl, substituted phenyl) (156 compds.), useful in control of cotton plant diseases (no data), were prepared by previously published syntheses.
 IT 61293-68-3P
 RL: SPN (Synthetic preparation); PREP (Preparation of)
 (preparation of)
 RN 61293-68-3 CAPLUS